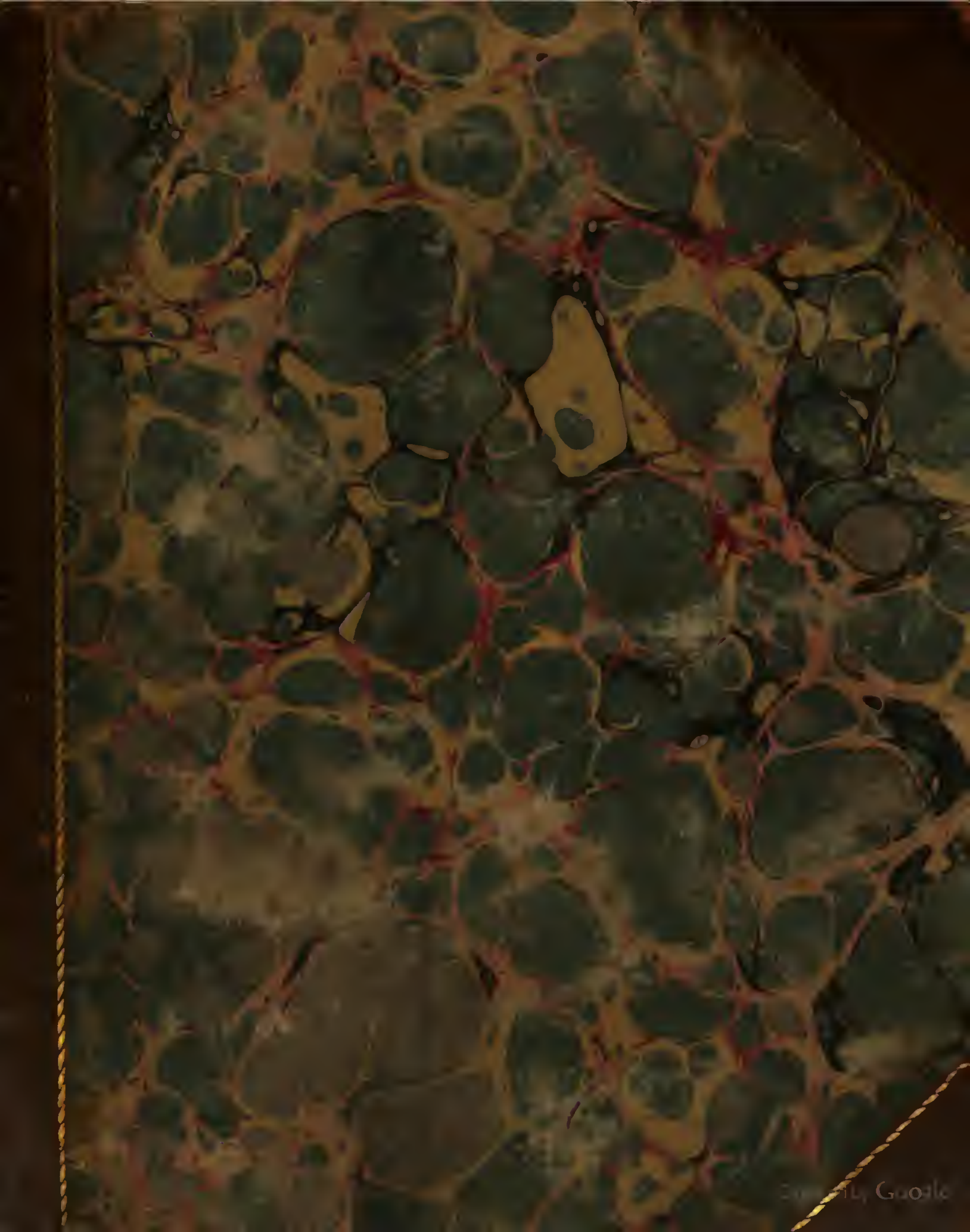

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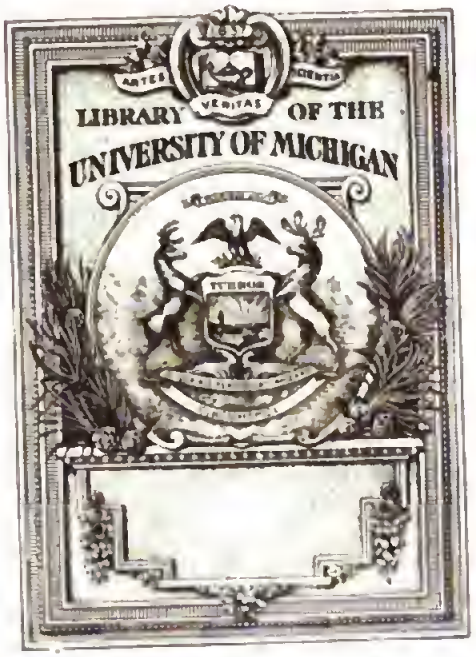
to
The Revd G. Cunningham



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VOL. IV.

INDOCTI DISCANT, ET AMENT MEMINISSE PERITI.

EDINBURGH.

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ENCYCLOPÆDIA BRITANNICA.

C

C. Caaba.

C THE third letter, and second conſonant, of the alphabet, is pronounced like *k* before the vowels *a*, *o*, and *u*; and like *s* before *e*, *i*, and *y*. C is formed, according to Scaliger, from the Κ of the Greeks, by retrenching the ſtem or upright line; though others derive it from the כ of the Hebrews, which has in effect the ſame form; allowing only for this, that the Hebrews, reading backwards, and the Latins, &c. forwards, each have turned the letter their own way. However, the C not being the ſame as to ſound with the Hebrew *caph*, and it being certain the Romans did not borrow their letters immediately from the Hebrews or other orientals, but from the Greeks, the derivation from the Greek Κ is the more probable. Add, that F. Montfaucon, in his Palæographia, gives us ſome forms of the Greek Γ, which come very near that of our C; thus, for inſtance, ς: and Suidas calls the C the Roman kappa. The ſecond ſound of C reſembles that of the Greek Σ; and many inſtances occur of ancient inſcriptions, in which Σ has the ſame form with our C. All grammarians agree, that the Romans pronounced their Q like our C, and their C like our K. F. Mabillon adds, that Charles the Great was the firſt who wrote his name with a C; whereas all his predeceſſors of the ſame name wrote it with a K: and the ſame difference is obſerved in their coins.

As an abbreviature, C ſtands for Caius, Carolus, Cæſar, *condemno*, &c. and CC for *conſulibus*.

As a numeral, C ſignifies 100, CC 200, &c.

C, in muſic, placed after the cliff, intimates that the muſic is in common time, which is either quick or ſlow, as it is joined with allegro or adagio: if alone, it is uſually adagio. If the C be croſſed or turned, the firſt requires the air to be played quick, and the laſt very quick.

CAABA, or CAABAH, properly ſignifies a ſquare ſtone building; but is particularly applied by the Mahometans to the temple of Mecca, built, as they pretend, by Abraham and Iſhmael his ſon.

Before the time of Mahomet, this temple was a place of worſhip for the idolatrous Arabs, and is ſaid to have contained no leſs than 360 different images, equalling in number the days of the Arabian year. They were all deſtroyed by Mahomet, who ſanctified the Caaba, and appointed it to be the chief place of worſhip for all true believers. The temple is in length from north to ſouth about 24 cubits; its breadth from eaſt to weſt is 23; and its height 27. The door, which is on the eaſt ſide, ſtands about four cubits from the ground; the floor being level with the bottom of the door. In the corner next this door is the *black ſtone*, ſo much celebrated among the Mahometans. On the north ſide of the caaba, within a ſemicircular incloſure 50 cubits long, lies the *white ſtone*, ſaid to be the ſepulchre of Iſhmael, which receives the rain-water from the caaba by a ſpout formerly of wood, but now of gold. The black ſtone, according to the Mahometans, was brought down from heaven by Gabriel at the creation of the world; and originally of a white colour; but contracted the blackneſs that now appears on it, from the guilt of thoſe ſins committed by the ſons of men. It is ſet in ſilver, and fixed in the ſouth-eaſt corner of the caaba, looking towards Baſra, about ſeven ſpans from the ground. This ſtone, upon which there is the figure of a human head, is held in the higheſt eſtimation among the Arabs; all the pilgrims kiſſing it with great devotion, and ſome even calling it the *right hand of God*. Its blackneſs, which is only ſuperficial, is probably owing to the kiſſes and touches of ſo many people. After the Karmatians had taken Mecca, they carried away this precious ſtone, and could by no means be prevailed upon to reſtore it; but finding at laſt that they were unable to prevent the concourſe of pilgrims to Mecca, they ſent it back of their own accord, after having kept it 22 years. Caaba.

The double roof of the caaba is ſupported within by three octagonal pillars of aloes-wood; between which, on a bar of iron, hang ſome ſilver lamps. The outſide is covered with rich black damaſk, adorned with an embroidered band of gold, which is changed every year, and was formerly ſent by the khaliſs, afterwards by the ſultans of Egypt, and is now provided by the Turkiſh emperors. The caaba, at ſome diſtance, is almoſt ſurrounded by a circular incloſure of pillars, joined towards the bottom by a low baluſtrade, and towards the top by bars of ſilver. Juſt without this inner incloſure, on the ſouth, north, and weſt ſides of the caaba, are three buildings, which are the oratories or places where three of the orthodox ſects aſſemble to perform their devotions. Towards the ſouth-eaſt ſtands an edifice which covers the well Zemzen, the treaſury, and the cupola of Al Abbas. Formerly there was another cupola, that went under the name of the *hemicycle*, or *cupola of Judea*: but whether or not any remains of that are now to be ſeen is unknown; nor is it eaſy to obtain information in this reſpect, all Chriſtians being denied acceſs to this holy place. At a ſmall diſtance from the caaba, on the eaſt ſide, is the *ſtation* or *place* of Abraham; where is another ſtone much reſpected by the Mahometans; and where they pretend

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Caaba ‖ Cab.

to ſhow the footſteps of the patriarch, telling us he ſtood on it when he built the caaba. Here the fourth ſect of Arabs, *viz.* that of Al Shafei, aſſemble for religious purpoſes.

The ſquare colonnade, or great piazza, that at a conſiderable diſtance incloſes theſe buildings, conſiſts, according to Al Jannabi, of 448 pillars, and has no leſs than 38 gates. Mr Sale compares this piazza to that of the royal exchange at London, but allows it to be much larger. It is covered with ſmall domes or cupolas, from the four corners of which riſe as many minarets or ſteeples, with double galleries, and adorned with gilded ſpires and creſcents after the Turkiſh manner, as are alſo the cupolas which cover the piazza and other buildings. Between the columns of both incloſures hang a great number of lamps, which are conſtantly lighted at night. The firſt foundations of this ſecond incloſure were laid by Omar the ſecond khalif, who built no more than a low wall, to prevent the court of the caaba from being incroached upon by private buildings; but by the liberality of ſucceeding princes, the whole has been raiſed to that ſtate of magnificence in which it appears at preſent.

This temple enjoys the privilege of an aſylum for all ſorts of criminals; but it is moſt remarkable for the pilgrimages made to it by the devout muſſelmans, who pay ſo great a veneration to it, that they believe a ſingle ſight of its ſacred walls, without any particular act of devotion, is as meritorious, in the ſight of God, as the moſt careful diſcharge of one's duty, for the ſpace of a whole year, in any other temple.

CAAMINI, in botany, a name given by the Spaniards and others to the fineſt ſort of Paraguayan tea. It is the leaf of a ſhrub which grows on the mountains of Maracaya, and is uſed in Chili and Peru as the tea is with us. The mountains where this ſhrub grows naturally are far from the inhabited parts of Paraguay; but the people of the place know ſo well the value and uſe of it, that they conſtantly furniſh themſelves with great quantities of it from the ſpot. They uſed to go out on theſe expeditions many thouſands together; leaving their country in the mean time expoſed to the inſults of their enemies, and many of themſelves periſhing by fatigue. To avoid theſe inconveniences, they have of late planted theſe trees about their habitations; but the leaves of theſe cultivated ones have not the fine flavour of thoſe that grow wild. The king of Spain has permitted the Indians of Paraguay to bring to the town of Saintſoy 12,000 arobes of the leaves of this tree every year, but they are not able to procure ſo much of the wild leaves annually: about half the quantity is the utmoſt they bring of this: the other half is made up of the leaves of the trees in their own plantations; and this ſells at a lower price, and is called *paboſ*. The arobe is about 25 pound weight; the general price is four piaſtres; and the money is always divided equally among the people of the colony.

CAANA, or Kaawa, a town in Upper Egypt, ſeated on the eaſtern banks of the river Nile, from whence they carry corn and pulſe for the ſupply of Mecca in Arabia. E. Long. 32. 23. N. Lat. 24. 30. Here are ſeveral monuments of antiquity yet remaining, adorned with hieroglyphics.

CAB, an Hebrew dry meaſure, being the ſixth part of a ſeah or ſatum, and the 18th part of an ephah. A cab contained $2\frac{1}{2}$ pints of our corn-meaſure: a quarter cab was the meaſure of dove's dung, or more properly a ſort of chick-peaſe called by this name, which was ſold at Samaria, during the ſiege of that city, for five ſhekels.

Cabal ‖ Cabbala.

CABAL, an apt name currently given to the infamous miniſtry of Charles II. compoſed of five perſons, Clifford, Aſhley, Buckingham, Arlington, and Lauderdale; the firſt letters of whoſe names, in this order, furniſhed the appellation by which they were diſtinguiſhed.

CABALIST, in French commerce, a factor or perſon who is concerned in managing the trade of another.

CABALLARIA, in middle-age writers, lands held by the tenure of furniſhing a horſeman, with ſuitable equipage, in time of war, or when the lord had occaſion for him.

CABALLEROS, or Cavallros, are Spaniſh wools, of which there is a pretty conſiderable trade at Bayonne in France.

CABALLINE, denotes ſomething belonging to horſes: thus caballine aloes is ſo called, from its being chiefly uſed for purging horſes; and common brimſtone is called *ſulphur caballinum* for a like reaſon.

CABALLINUM (anc. geog), a town of the Ædui in Gallia Celtica; now *Chalon ſur Saone*, which ſee.

CABALLINUS (anc. geog.), a very clear fountain of mount Helicon in Bœotia; called *Hippocrene* by the Greeks, becauſe opened by Pegaſus on ſtriking the rock with his hoof, and hence called *Pegaſus*.

CABALLIO, or Caballio (anc. geog.), a town of the Cavares in Gallia Narbonnenſis, ſituated on the Druentia. One of the Latin colonies, in the Notitiæ called *Civitas Cabellicorum*. Now *Cavaillon* in Provence.

CABBAGE, in botany. See Brassica; and Agriculture, n° 40, and 169. In the Georgical eſſays, we find this plant greatly recommended as an excellent food for cattle, producing much dung, and being an excellent ſubſtitute for hay. The author prefers the Scotch kind, as being moſt durable, and preferable on all other accounts. He alſo recommends autumn-ſowed plants in preference to thoſe ſowed in the ſpring; the former producing a much more weighty crop than the latter. The expence of raiſing an acre of good cabbages he values at 14*l.* 15*s.* and its produce at 34*l.*

Cabbage-Tree, or *True Cabbage-Palm*. See Areca.

Cabbage-bark Tree. See Geoffraea.

CABBALA, according to the Hebrew ſtyle, has a very diſtinct ſignification from that wherein we underſtand it in our language. The Hebrew cabbala ſignifies tradition; and the Rabbins, who are called *cabbaliſts*, ſtudy principally the combination of particular words, letters, and numbers, and by this means pretend to diſcover what is to come, and to ſee clearly into the ſenſe of many difficult paſſages of ſcripture. There are no ſure principles of this knowledge, but it depends upon ſome particular traditions of the ancients; for which reaſon it is termed *cabbala*.

The cabbaliſts have abundance of names which they call *ſacred*; theſe they make uſe of in invoking of ſpirits, and imagine they receive great light from them. They

Cabbala || Cahenda.

They tell us, that the ſecreta of the cabbala were diſcovered to Moſes on mount Sinai; and that theſe have been delivered to them down from father to ſon, without interruption, and without any uſe of letters; for to write them down, is what they are by no means permitted to do. This is likewiſe termed the *oral law*, becauſe it paſſed from father to ſon, in order to diſtinguiſh it from the written laws.

There is another cabbala, called *artificial*, which conſiſts in ſearching for abſtruſe and myſterious ſignifications of a word in Scripture, from whence they borrow certain explanations, by combining the letters which compoſe it: this cabbala is divided into three kinds, the gematrie, the notaricon, and the temura or themurah. The firſt whereof conſiſts in taking the letters of a Hebrew word for cipbers or arithmetical numbers, and explaining every word by the arithmetical value of the letters whereof it is compoſed. The ſecond ſort of cabbala, called *notaricon*, conſiſts in taking every particular letter of a word for an entire diction; and the third, called *themura*, i. e. change, conſiſts in making different tranſpoſitions or changes of letters, placing one for the other, or one before the other.

Among the Chriſtians, likewiſe, a certain ſort of magic is, by miſtake, called *cabbala*; which conſiſts in uſing improperly certain paſſages of Scripture for magic operations, or in forming magic characters or figures with ſtars and taliſmans.

Some viſionaries among the Jews believe, that Jeſus Chriſt wrought his miracles by virtue of the myſteries of the cabbala.

CABBALISTS, the Jewiſh doctors who profeſs the ſtudy of the cabbala.

In the opinion of theſe men, there is not a word, letter, or accent in the law, without ſome myſtery in it. The Jews are divided into two general ſects; the karaites, who refuſe to receive either tradition or the talmud, or any thing but the pure text of ſcripture; and the rabbiniſts, or talmudiſts, who, beſides this, receive the traditions of the ancients, and follow the talmud.

The latter are again divided into two other ſects; pure rabbiniſts, who explain the ſcripture in its natural ſenſe, by grammar, hiſtory, and tradition; and cabbaliſts, who, to diſcover hidden myſtical ſenſes, which they ſuppoſe God to have couched therein, make uſe of the cabbala, and the myſtical methods above mentioned.

CABECA, or Cabesse, a name given to the fineſt ſilks in the Eaſt Indies, as thoſe from 15 to 20 *per cent.* inferior to them are called *barma*. The Indian workmen endeavour to paſs them off one with the other; for which reaſon, the more experienced European merchants take care to open the bales, and to examine all the ſkaines one after another. The Dutch diſtinguiſh two ſorts of cabecas; namely, the moor cabeca, and the common cabeca. The former is ſold at Amſterdam for about 21½ ſchellingben Flemiſh, and the other for about 18½.

Cabeca de Vide, a ſmall ſea-port town of Alentejo in Portugal, with good walls, and a ſtrong caſtle. W. Long. 6. 43. N. Lat. 39. 0.

CABENDA, a ſea-port of Congo in Africa, ſituated in E. Long. 12. 2. S. Lat. 4. 5.

CABES, or Gabs, a town of Africa, in the kingdom of Tunis, ſeated on a river near the gulf of the ſame name. E. Long. 10. 55. N. Lat. 33. 40.

Cabes || Cabinet.

CABEZZO, a province of the kingdom of Angola, in Africa; having Oacco on the north, Lubolo on the ſouth, the Coanza on the north-eaſt, and the Reinba on the ſouth-weſt. It is populous, and well ſtored with cattle, &c. and hath a mine of iron on a mountain from thence called the *iron mountain*, which yields great quantities of that metal; and this the Portugueſe have taught the natives to manufacture. This province is watered by a river called *Rio Longo*, and other ſmall rivulets, lakes, &c. The trees here are vaſtly large; and they have one ſort not unlike our apple-trees, the bark of which being ſlaſhed with a knife, yields an odoriferous reſin of the colour and conſiſtency of wax, and very medicinal in its nature, only a little too hot for Europeans, unleſs qualified by ſome cooling drug.

CABIDOS, or Cavidos, a long meaſure uſed at Goa, and other places of the Eaſt Indies belonging to the Portugueſe, to meaſure ſtuffs, linens, &c. and equal to ⅘ths of the Paris ell.

CABIN, a room or apartment in a ſhip where any of the officers uſually reſide. There are many of theſe in a large ſhip; the principal of which is deſigned for the captain or commander. In ſhips of the line this chamber is furniſhed with an open gallery in the ſhip's ſtern, as alſo a little gallery on each quarter. The apartments where the inferior officers or common ſailors ſleep and meſs are uſually called Births; which ſee.

The bed-places built up for the ſailors at the ſhip's ſide in merchantmen are alſo called *cabins*.

CABINDA, the chief port of the kingdom of Angoy in Loango in Africa. It is ſituated at the mouth of a river of the ſame name about five leagues north of Cape Palmerino, on the north ſide of the mouth of the river Zaire. The bay is very commodious for trade, wooding, and watering.

CABINET, the moſt retired place in the fineſt part of a building, ſet apart for writing, ſtudying, or preſerving any thing that is precious.

A complete apartment conſiſts of a hall, anti-chamber, chamber, and cabinet, with a gallery on one ſide. Hence we ſay, a cabinet of paintings, curioſities, &c.

Cabinet, alſo denotes a piece of joiner's workmanſhip, being a kind of preſs or cheſt, with ſeveral doors and drawers.

There are common cabinets of oak or of chefnut, varniſhed cabinets of China and Japan, cabinets of inlaid work, and ſome of ebony, or the like ſcarce and precious woods. Formerly the Dutch and German cabinets were much eſteemed in France; but are now quite out of date, as well as the cabinets of ebony which came from Venice.

Cabinet is alſo uſed in ſpeaking of the more ſelect and ſecret councils of a prince or adminiſtration. Thus we ſay, the ſecrets, the intrigues of the cabinet. To avoid the inconveniences of a numerous council, the policy of Italy and practice of France firſt introduced cabinet councils. King Charles I. is charged with firſt eſtabliſhing this uſage in England. Beſides his privy council, that prince erected a kind of cabinet council, or junto, under the denomination of a council of ſtate; compoſed of archbiſhop Laud, the earl of

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Cabinet || Cable.

Strafford, and lord Collington, with the ſecretaries of ſtate. Yet ſome pretend to find the ſubſtance of a cabinet council of much greater antiquity, and even allowed by parliament, who anciently ſettled a quorum of perſons moſt confided in, without whoſe preſence no arduous matter was to be determined; giving them power to act without conſulting the reſt of the council. As long ſince as the 28th of Henry III. a charter paſſed in affirmance of the ancient rights of the kingdom; which provided, that four great men, choſen by common conſent, who were to be conſervators of the kingdom, among other things, ſhould ſee to the diſpoſing of monies given by parliament, and appropriated to particular uſes; and parliaments were to be ſummoned as they ſhould adviſe. But even of theſe four, any two made a quorum; and generally the chief juſtice of England, and chancellor, were of the number of the conſervators. Matth. Par. 28. Hen. III. In the firſt of Henry VI. the parliament provides, that the quorum for the privy council be ſix, or four at leaſt; and that in all weighty conſiderations, the dukes of Bedford and Glouceſter, the king's uncles, ſhould be preſent; which ſeems to be erecting a cabinet by law.

CABIRI, a term in the theology of the ancient Pagans, ſignifying great and powerful gods; being a name given to the gods of Samothracia. They were alſo worſhipped in other parts of Greece, as Lemnos and Thebes, where the cabiria were celebrated in honour of them; theſe gods are ſaid to be, in number, four, viz. Axieros, Axiocerſa, Axiocerſus, and Caſmilus.

CABIRIA, feſtivals in honour of the Cabiri, celebrated in Thebes and Lemnos, but eſpecially in Samothracia, an iſland conſecrated to the Cabiri. All who were initiated into the myſteries of theſe gods, were thought to be ſecured thereby from ſtorms at ſea, and all other dangers. The ceremony of initiation was performed by placing the candidate, crowned with olive branches, and girded about the loins with a purple ribband, on a kind of throne, about which the prieſts, and perſons before initiated, danced.

CABLE, a thick, large, ſtrong rope, commonly of hemp, which ſerves to keep a ſhip at anchor.

There is no merchant-ſhip, however weak, but has at leaſt three cables; namely, the chief cable, or cable of the ſheet-anchor, a common cable, and a ſmaller one.

Cable is alſo ſaid of ropes, which ſerve to raiſe heavy loads, by the help of cranes, pullies, and other engines. The name of *cable* is uſually given to ſuch as have, at leaſt, three inches in circumference; thoſe that are leſs are only called *ropes*, of different names according to their uſe.

Every cable, of whatſoever thickneſs it be, is compoſed of three ſtrands; every ſtrand of three ropes; and every rope of three twiſts: the twiſt is made of more or leſs threads, according as the cable is to be thicker or thinner.

In the manufacture of cables, after the ropes are made, they uſe ſticks, which they paſs firſt between the ropes of which they make the ſtrands, and afterwards between the ſtrands of which they make the cable, to the end that they may all twiſt the better, and be more regularly wound together; and alſo, to prevent them from entwining or entangling, they hang, at the end of each ſtrand and of each rope, a weight of lead or of ſtone.

Cable || Cabot.

The number of threads each cable is compoſed of is always proportioned to its length and thickneſs; and it is by this number of threads that its weight and value are aſcertained: thus, a cable of three inches circumference, or one inch diameter, ought to conſiſt of 48 ordinary threads, and to weigh 192 pounds; and on this foundation is calculated the following table, very uſeful for all people engaged in marine commerce, who fit out merchantmen for their own account, or freight them for the account of others.

A table of the number of threads and weight of cables of different circumferences.

Circumf	Threads.	Weight.
3 inches	48	192 pounds.
4	77	308
5	121	484
6	174	696
7	238	952
8	311	1244
9	393	1572
10	485	1940
11	598	2392
12	699	2796
13	821	3284
14	952	3808
15	1093	4372
16	1244	4976
17	1404	5616
18	1574	6296
19	1754	7016
20	1943	7772

Sheet-Anchor Cable, is the greateſt cable belonging to a ſhip.

Stream Cable, a hawſer or rope, ſomething ſmaller than the bowers, and uſed to moor the ſhip in a river, or haven, ſheltered from the wind and ſea, &c.

Serve or Plate the Cable, is to bind it about with ropes, clouts, &c. to keep it from galling in the hawſe.

To ſplice a Cable, is to make two pieces faſt together, by working the ſeveral threads of the rope the one into the other.

Pay more Cable, is to let more out of the ſhip. *Pay cheap the Cable*, is to to hand it out apace. *Veer more Cable*, is to let more out, &c.

Cable's Length, a meaſure of 120 fathoms, or of the uſual length of the cable.

CABLED, in heraldry, a term applied to a croſs formed of the two ends of a ſhip's cable; ſometimes alſo to a croſs covered over with rounds of rope; more properly called a *croſs corded*.

Cabled Flute, in architecture, ſuch flutes as are filled up with pieces in the form of a cable.

CABO DE ISTRIA, the capital town of the province of Iſtria, in the territory of Venice; and the ſee of a biſhop. It is ſeated on a ſmall iſland in the gulf of Venice, and is joined to the main land by draw-bridges. E. Long. 14. 22. N. Lat. 45. 49.

CABOCHED, in heraldry, is when the heads of beaſts are borne without any part of the neck, full-faced.

CABOLETTO, in commerce, a coin of the republic of Genoa, worth about 3d. of our money.

CABOT (Sebaſtian), the firſt diſcoverer of the continent of America, was the ſon of John Cabot a Venetian. He was born at Briſtol in 1477; and was taught by his father arithmetic, geometry, and coſmography.

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Cabot, Cabra

graphy. Before he was 20 years of age he made ſeveral voyages. The firſt of any conſequence ſeems to have been made with his father, who had a commiſſion from Henry VII. for the diſcovery of a north-weſt paſſage to India. They ſailed in the ſpring of 1497; and proceeding to the north-weſt they diſcovered land, which for that reaſon they called *Primaviſta*, or *Newfoundland*. Another ſmaller iſland they called *St John*, from its being diſcovered on the feaſt of St John Baptiſt; after which, they ſailed along the coaſt of America as far as Cape Florida, and then returned to England with a good cargo, and three Indians aboard. Stowe and Speed aſcribe theſe diſcoveries wholly to Sebaſtian, without mentioning his father. It is probable that Sebaſtian, after his father's death, made ſeveral voyages to theſe parts, as a map of his diſcoveries, drawn by himſelf, was hung up in the privy garden at Whitehall. However, hiſtory gives but little account of his life for near 20 years; when he went to Spain, where he was made pilot-major, and intruſted with reviewing all projects for diſcoveries, which were then very numerous. His great capacity and approved integrity induced many eminent merchants to treat with him about a voyage by the new found ſtraits of Magellan to the Moluccas. He therefore ſailed in 1525, firſt to the Canaries; then to the Cape Verd iſlands; thence to St Auguſtine and the iſland of Patos; when ſome of his people beginning to be mutinous, and refuſing to paſs through the ſtraits, he laid aſide the deſign of ſailing to the Moluccas; left ſome of the principal mutineers upon a deſart iſland; and, ſailing up the rivers of Plate and Paraguay, diſcovered, and built forts in, a large tract of fine country, that produced gold, ſilver, and other rich commodities. He thence diſpatched meſſengers to Spain for a ſupply of proviſions, ammunition, goods for trade, and a recruit of men: but his requeſt not being readily complied with, after ſtaying five years in America, he returned home; where he met with a cold reception, the merchants being diſpleaſed at his not having purſued his voyage to the Moluccas, while his treatment of the mutineers had given umbrage at court. Hence he returned to England; and being introduced to the Duke of Somerſet, then lord protector, a new office was erected for him: he was made governor of the myſtery and company of the merchant-adventurers for the diſcovery of regions, dominions, iſlands, and places unknown; a penſion was granted him, by letters-patent, of 166l. 13s. 4d. per annum; and he was conſulted in all affairs relative to trade. In 1522, by his intereſt, the court fitted out ſome ſhips for the diſcovery of the northern parts of the world. This produced the firſt voyage the Engliſh made to Ruſſia, and the beginning of that commerce which has ever ſince been carried on between the two nations. The Ruſſia company was now founded by a charter granted by Philip and Mary; and of this company Sebaſtian was appointed governor for life. He is ſaid to be the firſt who took notice of the variation of the needle, and who publiſhed a map of the world. The exact time of his death is not known, but he lived to be above 70 years of age.

CABRA, a town of the kingdom of Tombut in Africa. It is a large town, but without walls; and is ſeated on the river Niger, about 12 miles from Tombut. The houſes are built in the ſhape of bells; and the walls are made with ſtakes or hurdles, plaſtered with clay, and covered with reeds after the manner of thatch. This place is very much frequented by negroes who come here by water to trade. The town is very unhealthy, which is probably owing to its low ſituation. The colour of the inhabitants is black, and their religion a ſort of Mahometaniſm. They have plenty of corn, cattle, milk, and butter; but ſalt is very ſcarce. The judge who decides controverſies is appointed by the king of Tombut. E. Long. 0. 50. N. Lat. 14. 21.

Cabal, Cabuliſtan.

CABUL, or Gabout, a city of Aſia, and capital of the province of Cabuliſtan. It lies in E. Long. 68. 15. N. Lat. 33. 30. on the frontiers of Great Bukharia, on the ſouth ſide of the mountains which divide the territories of the Mogul from that part of Great Tartary. It is one of the fineſt places in that part of the world; large, rich, and very populous. As it is conſidered as the key of the great Mogul's dominions on that ſide, great care is taken to keep its fortifications in repair, and a numerous garriſon is maintained for its ſecurity. It lies on the road between Samarcand and Lahor; and is much frequented by the Tartars, Perſians, and Indians. The Uſbec Tartars drive there a great trade in ſlaves and horſes, of which it is ſaid that no fewer are ſold than 60,000 annually. The Perſians bring black cattle and ſheep, which renders proviſions very cheap. They have alſo wine, and plenty of all ſorts of eatables. The city ſtands on a little river which falls into the Indus, and thereby affords a ſhort and ſpeedy paſſage for all the rich commodities in the country behind it, which, when brought to Cabul, are there exchanged for ſlaves and horſes, and then conveyed by merchants of different countries to all parts of the world. The inhabitants are moſt of them Indian pagans, though the officers of the Mogul and moſt of the garriſon are Mahometans.

CABULISTAN, a province of Aſia, formerly belonging to the Great Mogul; but ceded in 1739 to Kouli Khan, who at that time governed Perſia. It is bounded on the north by Bukharia, on the eaſt by Cafehmire, on the weſt by Zabuliſtan and Candahar, and on the ſouth by Multan. It is 250 miles in length, 240 in breadth, and its chief town is Cabul. This country in general is not very fruitful; but in the vales they have good paſture-lands. The roads are much infeſted with banditti; which obliges the natives to have guards for the ſecurity of travellers. The religion of the Cabuliſtans is pagan; and their extraordinary time of devotion is the full moon in February, and continues for two days. At this time they are clothed in red, make their offerings, dance to the ſound of the trumpet, and make viſits to their friends in maſquerade dreſſes. They ſay, their god Cruſman killed a giant who was his enemy, and that he appeared like a little child; in memory of which, they cauſe a child to ſhoot at the figure of a giant. Thoſe of the ſame tribe make bonfires, and feaſt together in a jovial manner. The moral part of their religion conſiſts in charity; for which reaſon, they dig wells and build houſes for the accommodation of travellers. They have plenty of proviſions, mines of iron, myrobolans, aromatic woods, and drugs of many kinds. They carry on a great trade with the neighbouring countries; by which means they are very rich, and are ſupplied with plenty of all things.

CABURNS,

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Caburns, Cacalia

CABURNS, on ſhip-board, are ſmall lines made of ſpun yarn, to bind cables, ſeize tackles, or the like.

CACALIA, in botany; a genus of the polygamia æqualis order, belonging to the ſyngeneſia claſs of plants. The receptacle is naked; the pappus hairy; the calyx cylindrical, oblong, and calieulated, or having a ſmall enlyx of very ſhort ſcales only at the baſe.

Species. 1. The ſuaveolens, with a herbaceous ſtalk, is a native of North America. It hath a perennial creeping root which ſends out many ſtalks, garniſhed with triangular ſpear-ſhaped leaves ſharply ſawed on their edges, of a pale green on their under ſide, but a deep ſhining green above, placed alternately. The ſtalks riſe to the height of ſeven or eight feet, and are terminated by umbels of white flowers, which are ſucceeded hy oblong ſeeds covered with down. It flowers in Auguſt, and the ſeeds ripen in October. The ſtalks decay in autumn, and new one riſes in the ſpring. This plant multiplies greatly by its ſpreading roots, as alſo by the ſeeds, which are ſpread to a great diſtance by the wind, the down which adheres to them being greatly aſſiſting to their conveyance. The roots which have been caſt out of Chelſea garden, being carried by the tide to a great diſtance, have fixed themſelves to the banks of the river, and increaſed ſo much, that in a few years this ſpecies may probably appear as a native of England. 2. The ficoides is a native of the Cape of Good Hope. It riſes with ſtrong round ſtalks to the height of ſeven or eight feet, woody at bottom, but ſoft and ſucculent upward, ſending out many irregular branches, garniſhed more than half their length with thick, taper, ſucculent leaves, a little compreſſed on two ſides, ending in points, covered with a whitiſh glaucous farina, which comes off when handled. Theſe, when broken, emit a ſtrong odour of turpentine, and are full of a viſcous juice; at the extremity of the branches the flowers are produced in ſmall umbels; they are white, tubulous, and cut into five parts at the top. The leaves of this plant are pickled by the French, who eſteem them much; and in doing this they have a method of preſerving the white farina upon them, which adds greatly to the beauty of the pickle when brought to table. 3. The kleinia, with a compound ſhrubby ſtalk, grows naturally in the Canary iſlands, but has long been cultivated in the Engliſh gardens. It riſes with a thick fleſhy ſtem divided at certain diſtances, as it were, into ſo many joints. Each of theſe diviſions ſwell much larger in the middle than they do at each end; and the ſtalks divide into many irregular branches of the ſame form, which, toward their extremities, are garniſhed with long, narrow, ſpear-ſhaped leaves of a glaucous colour, ſtanding all round the ſtalks without order. As they fall off, they leave a ſcar at the place, which always remains on the branches. The flowers are produced in large cluſters at the extremity of the branches, which are tubulous, and of a faint carnation colour. They appear in Auguſt and September, but continue great part of October, and are not ſucceeded by ſeeds in this country. There have been ſtones and foſſils dug up at a very great depth in ſome parts of England having very perfect impreſſions of this plant upon them; from whence Dr Woodward has ſuppoſed the plants were lodged there at the univerſal deluge; and finding the impreſſions of many other plants and animals which are natives of thoſe iſlands, he concludes that the water flowed hither from the ſouth-weſt. This plant has been called the *cabbage-tree*, from the reſemblance which the ſtalk of it has to the cabbage: others have intitled it *carnation-tree*, from the ſhape of the leaves and the colour of the flowers. Beſides theſe, there are ſeven other ſpecies, viz. the alpina, with kidney-ſhaped leaves; the glabra, with ſmooth leaves; the atriplicifolia, with heart-ſhaped ſinuated leaves; the papillaris, with a ſhrubby ſtalk guarded on every ſide with broken rough footſtalks; the ante-euphorbium, with oblong oval leaves; the ſonchifolia, with lyre-ſhaped indented leaves; and the lutea, with leaves divided into five acute parts.

Cacalia ‖ Cachan.

Culture. The three ſpecies deſcribed above are very eaſily propagated. The firſt will propagate itſelf, as already mentioned, either by roots or ſeeds. The ſecond is eaſily propagated by cuttings during the ſummer months: Theſe ſhould be cut from the plants and laid to dry a fortnight, that the wound may be healed over before they are planted. Moſt people plunge the pots in which theſe are planted into an hot-bed, to promote their putting out roots; but if planted in June or July, they will root as well in the open air. Even branches broken off by accident have frequently put out roots when fallen on the ground, without any care. Theſe branches may be kept ſix months out of the ground, and will take root if planted. This ſhould have a light ſandy earth, and in winter be placed in an airy glaſs-caſe, where they may enjoy the ſun and air in mild weather, but muſt be protected from froſt. During the winter ſeaſon the plants muſt have but little water; and in ſummer, when they are placed in the open air, it ſhould not be given to them too often, nor in great quantity. The third is alſo propagated by cuttings, and the plants require the ſame culture; but muſt have a dry warm glaſs-caſe in winter, and very little water, being ſubject to rot with wet. In ſummer they muſt be placed in the open air in a warm ſheltered ſituation, and in very dry weather refreſhed moderately with water. With this management the plants will flower annually, and grow to the height of eight or ten feet.

CACAO. See THEOBROMA.

CACCOONS. See FLEVILLEA.

CACERES, a town of Spain, in the province of Eſtremadura, is ſeated on the river Saler, and noted for the exceeding fine wool which the ſheep bear in the neighbourhood. Between this town and Brocos, there is a wood, where the allies defeated the rear-guard of the duke of Berwick, on the 7th of April 1706. E. Long. 6. 47. N. Lat. 39. 15.

CACHALOT, in ichthyology. See PHYSETER.

CACHAN, or CASHAN, a conſiderable town of Perſia in Irac Agemi, where they carry on an extenſive trade in ſilks, ſilver, and gold brocades, and fine earthen ware. It is ſituated in a vaſt plain, 55 miles from Iſpahan. E. Long. 50. 2. N. Lat. 34. 10.

CACHAO, a province of the kingdom of Tonquin in Aſia, ſituated in the heart of the kingdom, and ſurrounded by the other ſeven. Its ſoil is fertile, and in ſome places mountainous, abounding with variety of trees, and particularly that of varniſh. Moſt of theſe provinces carry on ſome branch of the ſilk manufacture, but this moſt of all. It takes its name from the capital, which is alſo the metropolis of the whole kingdom, though in other reſpects hardly comparable to a Chineſe one of the third rank.

CACHAO, a city of the province of that name, in the kingdom of Tonquin in Aſia, ſituated in E. Long. 105.

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Cachao. 105. 31. N. Lat. 22. 10. at about 80 leagues diſtance from the ſea. It is prodigiouſly crowded with people, inſomuch that the ſtreets are hardly paſſable, eſpecially on market days. Theſe vaſt crowds, however, come moſtly from the neighbouring villages; upon which account theſe villages have been allowed their halls in particular parts of the city, where they bring and diſpoſe of their wares. The town itſelf, though the metropolis of the whole Tonquineſe kingdom, hath neither walls nor fortifications. The principal ſtreets are wide and airy, but the reſt of them narrow and ill-paved; and except the palace royal and arſenal, the town hath little elſe worth notice. The houſes are low and mean, moſtly built of wood and clay, and not above one ſtory high. The magazines and warehouſes belonging to foreigners are the only edifices built of brick; and which, though plain, yet, by reaſon of their height and more elegant ſtructure, make a conſiderable ſhow among thoſe rows of wooden huts. From the combuſtibility of its edifices, this city ſuffers frequent and dreadful conflagrations. Theſe ſpread with ſuch ſurpriſing velocity, that ſome thouſands of houſes are often laid in aſhes before the fire can be extinguiſhed. To prevent theſe ſad conſequences, every houſe hath, either in its yard or even in its centre, ſome low building of brick, in form of an oven, into which the inhabitants on the firſt alarm convey their moſt valuable goods. Beſides this precaution, which every family takes to ſecure their goods, the government obliges them to keep a ciſtern, or ſome other capacious veſſel, always full of water on the top of their houſe, to be ready on all occaſions of this nature; as likewiſe a long pole and bucket, to throw water from the kennel upon the houſes. If theſe two expedients fail of ſuppreſſing the flames, they immediately cut the ſtraps which faſten the thatch to the walls, and let it fall in and waſte itſelf on the ground. The king's palace ſtands in the centre of the city; and is ſurrounded with a ſtout wall, within whoſe cincture are ſeen a great number of apartments two ſtories high, whoſe fronts and portals have ſomething of the grand taſte. Thoſe of the king and his wives are embelliſhed with variety of carvings and gildings after the Indian manner, and all finely varniſhed. In the outer court are a vaſt number of ſumptuous ſtables for the king's horſes and elephants. The appearance of the inner courts can only be conjectured; for the avenues are not only ſhut to all ſtrangers, but even to the king's ſubjects, except thoſe of the privy council, and the chief miniſters of ſtate: yet we are told, that there are ſtair-caſes by which people may mount up to the top of the walls, which are about 18 or 20 feet high; from whence they may have a diſtant view of the royal apartments, and of the fine parterres and fiſh-ponds that are between the cincture and them. The front wall hath a large gate well ornamented, which is never opened but when the king goes in and out; but at ſome diſtance from it on each ſide there are two poſterns, at which the courtiers and ſervants may go in and out. This cincture, which is of a vaſt circumference, is faced with brick within and without, and the whole ſtructure is terminated by wide ſpacious gardens; which, though ſtored with great variety of proper ornaments, are deſtitute of the grandeur and elegance obſerved in the palaces of European princes. Beſides this palace, the ruins of one ſtill more magnificent are to be obſerved, and are called *Libatwia*. The circumference is ſaid to have been betwixt ſix and ſeven miles: ſome arches, porticoes, and other ornaments, are ſtill remaining; from which, and ſome of its courts paved with marble, it may be concluded to have been as magnificent a ſtructure as any of the eaſtern parts can ſhow. The arſenal is likewiſe a large and noble building, well ſtored with ammunition and artillery. The Engliſh factory is ſituated on the north ſide of the city, fronting the river *Song-koy*. It is a handſome low-built houſe, with a ſpacious dining-room in the centre; and on each ſide are the apartments of the merchants, factors, and ſervants. At each end of the building are ſmaller houſes for other uſes, as ſtore-houſes, kitchen, &c. which form two wings with the ſquare in the middle, and parallel with the river, near the bank of which ſtands a long flag-ſtaff, on which they commonly diſplay the Engliſh colours on Sundays and all remarkable days. Adjoining to it, on the ſouth ſide, is the Daniſh factory, which is neither ſo large nor ſo handſome. On the ſame ſide of the river runs a long dike, whoſe timber and ſtones are ſo firmly faſtened together, that no part of it can be ſtirred without moving the whole. This work was raiſed on thoſe banks to prevent the river, during the time of their vaſt rains, from overflowing the city; and it has hitherto anſwered its end; for though the town ſtands high enough to be in no danger from land-floods, it might yet have been otherwiſe frequently damaged, if not totally laid under water, by the overflowing of that river. Some curious obſervations have been communicated to the royal ſociety concerning differences between the tides of thoſe ſeas and thoſe of Europe, viz. that on the Tonquineſe coaſt ebbs and flows but once in 24 hours; that is, that the tide is riſing during the ſpace of 12 hours, and can be eaſily perceived during two of the moon's quarters, but can hardly be obſerved during the other two. In the ſpring tides, which laſt 14 days, the waters begin to riſe at the riſing of the moon; whereas in the low tides, which continue the ſame number of days, the tide begins not till that planet is got below the horizon. Whilſt it is paſſing through the ſix northern ſigns, the tides are obſerved to vary greatly, to riſe ſometimes very high, and ſometimes to be very low; but when it is once got into the ſouthern part of the zodiac, they are then found to be more even and regular.

Cachao || Cachrys.

CACHECTIC, ſomething partaking of the nature of, or belonging to, a cachexy.

CACHEO, a town of Negroland in Africa, ſeated on the river St Domingo. It is ſubject to the Portugueſe, who have three forts there, and carry on a great trade in wax and ſlaves. W. Long. 14. 55. N. Lat. 12. 0.

CACHEXY, in medicine, a vicious ſtate of the humours and whole habit. See (the Index ſubjoined to) MEDICINE.

CACHRYS, in botany: A genus of the digynia order belonging to the pentandria claſs of plants; and in the natural method ranking under the 45th order, *Umbellatæ*. The fruit is ſubovate, angled, and corky or ſpongy rinded.

There are five ſpecies, viz. the trifida, with bipinnated leaves; the ſicula, with double winged leaves; the libanotis, with ſmooth furrowed ſeeds; the linearia, with plain channelled fruit; and the hungarica, with a plain, ſungous, channelled ſeed. All theſe are perennial.

Cachunde ‖ Cactus.

ennial plants, rising pretty high, and bearing large umbels of yellow flowers, and may be propagated by seeds which ought to be sown soon after they are ripe; for if they are kept out of the ground till the next spring, they often miscarry. They must also be sown in a shady border where they are to remain: for the plants, having long top-roots, will not bear transplanting so well as many others. The Hungarians in the neighbourhood of Erlaw, and those who border on Transylvania, Servia, &c. eat the root of the fifth species in a scarcity of corn for want of other bread.

CACHUNDE, the name of a medicine, highly celebrated among the Chinese and Indians, and made of several aromatic ingredients, the perfumes, medicinal earth, and precious stones: they make the whole into a stiff paste, and form out of it several figures according to their fancy, which are dried for use: these are principally used in the East Indies, but are sometimes brought over to Portugal. In China, the principal persons usually carry a small piece in their mouths, which is a continued cordial, and gives their breath a very sweet smell. It is a highly valuable medicine also, in all nervous complaints; and is esteemed a prolonger to life, and a provocative to venery, the two great intentions of most of the medicines in use in the East.

CACOCHYLIA, or CACOCHYMIA, a vicious state of the vital humours, especially of the mass of blood; arising either from a disorder of the secretions or excretions, or from external contagion. The word is Greek, compounded of κακος *ill*, and χυλος *juice*.

CACOPHONIA, in grammar and rhetoric, the meeting of two letters, or syllables, which yield an uncouth and disagreeable sound. The word is compounded of κακος *evil*, and φωνη, *voice*.

CACOPHONIA, in Medicine, denotes a vice or deprivation of the voice or speech; of which there are two species, *aphonia* and *dysphonia*.

CACTUS, in botany: A genus of the monogynia order, belonging to the icosandria class of plants; and in the natural method ranking under the 13th order, *Succulentæ*. The calyx is monophyllous; superior, or above the receptacle of the fruit imbricated; the corolla polypetalous; the fruit an unilocular, polyspermous berry. To this genus Linnæus has added the cereus and opuntia. There are 24 species, all natives of the West Indies and Mexico.

The cacti are plants of a singular structure, but especially the larger kinds of them; which appear like a large, fleshy, green melon, with deep ribs, set all over with strong sharp thorns; and, when the plants are cut through the middle, their inside is a soft, pale-green, fleshy substance, very full of moisture. The fruit of all the species is frequently eaten by the inhabitants of the West Indies. The fruits are about three quarters of an inch in length, of a taper form, drawing to a point at the bottom toward the plant, but blunt at the top where the empalement of the flower was situated. The taste is agreeably acid, which in a hot country must render the fruit more grateful.

The cochineal animals are supported on a species called *cactus cochenillifer*.—The flower of the cactus grandiflora (one of the creeping cereuses) is said to be as grand and beautiful as any in the vegetable system: It begins to open in the evening about seven o'clock, is in perfection about eleven, and fades about four in the morning; so that the same flower only continues in perfection about six hours. The calyx when expanded is about a foot in diameter, of a splendid yellow within, and a dark brown without; the petals are many, and of a pure white; and the great number of recurved stamina, surrounding the style in the centre of the flower, make a grand appearance, to which may be added the fine scent, which perfumes the air to a considerable distance. It flowers in July.

Cacus ‖ Cadence.

CACUS, in fabulous history, an Italian shepherd upon mount Aventine. As Hercules was driving home the herd of king Geryon whom he had slain, Cacus robbed him of some of his oxen, which he drew backward into his den lest they should be discovered. Hercules at last finding them out by their lowing, or the robbery being discovered to him, killed Cacus with his club. He was Vulcan's son, of prodigious bulk, and half man half satyr.

CADAN, a town of Bohemia, in the circle of Zats, seated on the northern bank of the river Egra, in E. Long. 13. 34. N. Lat. 50. 20.

CADARI, or KANARI, a sect of Mahometans, who assert free-will; attribute the actions of men to men alone, not to any secret power determining the will; and deny all absolute decrees, and predestination. The author of this sect was Mabed ben Kaled Al Gihoni, who suffered martyrdom for it. The word comes from the Arabic, קדר, *cadara*, *power*. Ben Aun calls the Cadariaos the Magi, or Manichees of the Mussulmen.

CADE, a cag, cask, or barrel. A cade of herrings is a vessel containing the quantity of 500 red herrings, or 1000 sprats.

Cade-Lamb, a young lamb weaned, and brought up by hand, in a house; called in the North, *pet-lamb*.

Cade-Oil, in the *Materia Medica*, a name given to an oil much in use in some parts of France and Germany. The physicians call it *oleum cadi*, or *oleum de cada*. This is supposed by some to be the pisselæum of the ancients, but improperly; it is made of the fruit of the oxycedrus, which is called by the people of these places *cada*.

Cade-Worm in zoology, the maggot or worm of a fly called *phryganea*. It is used as a bait in angling. See PHRYGANEA.

CADEA, or THE LEAGUE OF THE HOUSE OF GOD, is one of those that compose the republic of the Grisons, and the most powerful and extensive of them all. It contains the bishopric of Coire, the great valley of Engadine, and that of Bragail or Pregal. Of the 11 great, or 21 small communities, there are but two that speak the German language; that of the rest is called the *Rhetic*, and is a dialect of the Italian. The Protestant religion is most prevalent in this league, which has been allied to the Swiss cantons ever since the year 1498. Coire is the capital town.

CADENAC, a town of France in Querci, on the confines of Rouergue, seated on the river Lot, in E. Long. 2. 12. N. Lat. 44. 36.

CADENCE, or REPOSE, in music, (from the Latin *cadere* to *fall* or *descend*); the termination of an harmonical phrase on a repose, or on a perfect chord. See MUSIC, art. 73—76, and 132—137.

CADENCE, in reading, is a falling of the voice below the key-note at the close of every period. In reading, whether prose or verse, a certain tone is assumed which is called the *key-note*; and in this tone the bulk of the words

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Cadence ‖ Cadi.

words are founded; but this note is generally lowered towards the cloſe of every ſentence.

CADENCE, in the manege, an equal meaſure or proportion, obſerved by a horſe in all his motions; ſo that his times have an equal regard to one another, the one does not embrace or take in more ground than the other, and the horſe obſerves his ground regularly.

CADENE, one of the ſorts of carpets which the Europeans import from the Levant. They are the worſt ſort of all, and are ſold by the piece from one to two piaſtres per carpet.

CADENET, a town of France in Provence, and in the Viguirie of Apt. E. Long. 5. 30. N. Lat. 43. 40.

CADES, or KADESH, (anc. geog.) a town in the Wilderneſs of Zin, in Arabia Petræa; the firſt encampment of the Iſraelites, after their departure from Eziongeber; and from which the Wilderneſs of Zin was called Cades; the burial-place of Miriam, with the rock and water of Meribah in it. Another *Cades*, a town of the tribe of Judah, Joſhua xv. 23. *Cadeſbarnea*, called alſo *Cades*.

CADESBARNEA, (anc. geog.) a town of the Wilderneſs of Paran, on the confines of Canaan, from which the ſpies were ſent out; ſometimes ſimply called *Cades*, but diſtinct from the Cades in the Wilderneſs of Zin.

CADET, the younger ſon of a family, is a term naturalized in our language from the French. At Paris, among the citizens, the cadets have an equal patrimony with the reſt. At Caux, in Normandy, the cuſtom, as with us, is to leave all to the eldeſt, except a ſmall portion to the cadets. In Spain, it is uſual for one of the cadets in great families to take the mother's name.

CADET is alſo a military term denoting a young gentleman who chooſes to carry arms in a marching regiment as a private man. His views are, to acquire ſome knowledge in the art of war, and to obtain a commiſſion in the army. Cadet differs from volunteer, as the former takes pay, whereas the latter ſerves without pay.

CADI, or CADHI, a judge of the civil affairs in the Turkiſh empire. It is generally taken for the judge of a town; judges of provinces being diſtinguiſhed by the appellation of *mollas*.

We find numerous complaints of the avarice, iniquity, and extortion, of the Turkiſh cadis; all juſtice is here venal; the people bribe the cadis, the cadis bribe the moulas, the moulas the cadileſchers, and the cadileſchers the mufti. Each cadi has his ſerjeants, who are to ſummon perſons to appear and anſwer complaints. If the party ſummoned fails to appear at the hour appointed, ſentence is paſſed in favour of his adverſary. It is uſually vain to appeal from the ſentences of the cadi, ſince the affair is never heard anew, but judgment is paſſed on the caſe as ſtated by the cadi. But the cadis are often caſhiered and puniſhed for crying injuſtice with the baſtinado and mulcts; the law, however, does not allow them to be put to death. Conſtantinople has had cadis ever ſince the year 1390, when Bajazet I. obliged John Palæologus, emperor of the Greeks, to receive cadis into the city to judge all controverſies happening between the Greeks and the Turks ſettled there. In ſome countries of Africa, the cadis are alſo judges of religious matters. Among the Moors, cadis is the denomination of their higher order of prieſts or doctors, anſwering to the rabbins among the Jews. Cadiaci ‖ Cadis.

CADIACI, the Turkiſh name of Chalcedon. See CHALCEDON.

CADILESCHER, a capital officer of juſtice among the Turks, anſwering to a chief juſtice among us.

It is ſaid, that this authority was originally confined to the ſoldiery; but that, at preſent, it extends itſelf to the determination of all kinds of law-ſuits; yet is nevertheleſs ſubject to appeals.

There are but three cadileſchers in all the grand ſignior's territories: the firſt is that of Europe; the ſecond, of Natolia; and the third reſides at Grand Cairo. This laſt is the moſt conſiderable: they have their ſeats in the divan next to the grand vizir.

CADILLAC, a town of France in Guienne, and in Bazadois, near the river Garonne, with a handſome caſtle, ſituated in W. Long. 0. 15. N. Lat. 44. 37.

CADIZ, a city and port-town of Andaluſia in Spain, ſituated on the iſland of Leon, oppoſite to Port St Mary on the continent, about 60 miles ſouth-weſt of Seville, and 40 north-weſt of Gibraltar. W. Long. 6. 40. N. Lat. 36. 30.

It occupies the whole ſurface of the weſtern extremity of the iſland, which is compoſed of two large circular parts, joined together by a very narrow bank of ſand, forming altogether the figure of a chain-ſhot. At the ſouth-eaſt end, the ancient bridge of Sunço, thrown over a deep channel or river, affords a communication between the iſland and the continent; a ſtrong line of works defends the city from all approaches along the iſthmus; and, to render them ſtill more difficult, all the gardens and little villas on the beach were in 1762 cleared away, and a dreary ſandy glacis left in their room, ſo that now there is ſcarce a tree on the whole iſland.

Except the *Calle Ancha*, all the ſtreets are narrow, ill-paved, and inſufferably ſtinking. They are all drawn in ſtraight lines, and moſt of them interſect each other at right angles. The ſwarms of rats that in the nights run about the ſtreets are innumerable; whole droves of them paſs and repaſs continually, and theſe their midnight revels are extremely troubleſome to ſuch as walk late. The houſes are lofty, with each a veſtibule, which being left open till night, ſerve paſſengers to retire to; this cuſtom, which prevails throughout Spain, renders theſe places exceedingly offenſive. In the middle of the houſe is a court like a deep well, under which is generally a ciſtern, the breeding-place of gnats and moſquitos; the ground-floors are warehouſes, the firſt ſtories compting-houſe or kitchen, and the principal apartment up two pair of ſtairs. The roofs are flat, covered with an impenetrable cement, and few are without a *mirador* or turret for the purpoſe of commanding a view of the ſea. Round the parapet-wall at top are placed rows of ſquare pillars, meant either for ornament according to ſome traditional mode of decoration, or to fix awnings to, that ſuch as ſit there for the benefit of the ſea-breeze may be ſheltered from the rays of the ſun; but the moſt common uſe made of them, is to faſten ropes for drying linen upon. High above all theſe pinnacles, which give Cadiz a moſt ſingular appearance, ſtands

Cadiz. the tower of ſignals. Here flags are hung out on the firſt ſight of a ſail, marking the ſize of the ſhip, the nation it belongs to, and, if a Spaniſh Indiaman, the port of the Indies it comes from. The ſhips are acquainted with the proper ſignals to be made, and theſe are repeated by the watchmen of the tower: as painted liſts are in every houſe, perſons concerned in commerce ſoon learn the marks.

The city is divided into twenty-four quarters, under the inſpection of as many commiſſioners of police; and its population is reckoned at one hundred and forty thouſand inhabitants, of which twelve thouſand are French, and at leaſt as many more Italians. The ſquare of Saint Antonio is large, and tolerably handſome, and there are a few ſmaller openings of no great note. The public walk, or Alameda, is pleaſant in the evening: it is fenced off the coach-road by a marble rail. The ſea-air prevents the trees from thriving, and deſtroys all hopes of future ſhade.

From the Alameda, continuing your walk weſtwards, you come to the Campofanto, a large eſplanade, the only airing-place for coaches; it turns round moſt part of the weſt and ſouth ſides of the iſland, but the buildings are ſtraggling and ugly; the only edifice of any ſhow is the new orphan-houſe; oppoſite to it is the fortreſs of St Sebaſtian, built on a neck of land running out into the ſea. The round tower at the extremity is ſuppoſed to have ſaved the city, in the great earthquake of 1755, from being ſwept away by the fury of the waves. The building proved ſufficiently ſolid to withſtand the ſhock, and break the immenſe volume of water that threatened deſtruction to the whole iſland. In the narrow part of the iſthmus the ſurge beat over with amazing impetuoſity, and bore down all before it; among the reſt, the grandſon of the famous tragic-poet Racine, who ſtrove in vain to eſcape, by urging his horſe to the utmoſt of his ſpeed. On St Sebaſtian's feaſt, a kind of wake or fair is held in the fort; an aſtoniſhing number of people then paſſing and repaſſing, on a ſtring of wooden bridges laid from rock to rock, makes a very lively moving picture.

From hence to the wooden circus where they exhibit the bull-feaſts, you keep turning to the left cloſe above the ſea, which on all this ſide daſhes over large ledges of rock; the ſhore ſeems here abſolutely inacceſſible. On this ſhore ſtands the cathedral, a work of great expence, but carried on with ſo little vigour, that it is difficult to gueſs at the term of years it will require to bring it to perfection. The vaults are executed with great ſolidity. The arches, that ſpring from the cluſtered pilaſters to ſupport the roof of the church, are very bold; the minute ſculpture beſtowed upon them ſeems ſuperfluous, as all the effect will be loſt from their great height, and from the ſhade that will be thrown upon them by the filling up of the interſtices. From the ſea, the preſent top of the church reſembles the carcaſe of ſome huge monſter caſt upon its ſide, rearing its gigantic blanched ribs high above the buildings of the city. The outward caſings are to be of white marble, the bars of the windows of bronze.

Next, croſſing before the land-gate and barracks, a ſuperb edifice for ſtrength, convenience, and cleanlineſs, you come down to the ramparts that defend the city on the ſide of the bay. If the proſpect to the ocean is ſolemn, that towards the main land is animated in the higheſt degree; the men of war ride in the eaſtern boſom of the bay; lower down the merchantmen are ſpread far and near; and cloſe to the town an incredible number of barks, of various ſhapes and ſizes, cover the ſurface of the water, ſome moored and ſome in motion, carrying goods to and fro. The oppoſite ſhore of Spain is ſtudded with white houſes, and enlivened by the towns of St Mary's, Port-real, and others, behind which, eaſtward, on a ridge of hills, ſtands Medina Sidonia, and further back riſe the mountains of Granada. Weſtward, Rota cloſes the horizon, near which was anciently the iſland and city of Tarteſſus, now covered by the ſea, but at low-water ſome part of the ruins are ſtill to be diſcerned. In a large baſtion, jutting out into the bay, they have built the cuſtom-houſe, the firſt ſtory of which is level with the walk upon the walls. When it was reſolved to erect a building ſo neceſſary to this great emporium of trade, the marquis di Squillace gave orders that no expence ſhould be ſpared, and the moſt intelligent architects employed, in order to erect a monument, which by its taſte and magnificence might excite the admiration of poſterity: the reſult of theſe precautions proved a piece of vile architecture, compoſed of the worſt of materials. Cadiz. || Cadmus.

The ſtir here is prodigious during the laſt months of the ſtay of the flota. The packers poſſeſs the art of preſſing goods in great perfection; but, as they pay the freight according to the cubic palms of each bale, they are apt to ſqueeze down the cloths and linens ſo very cloſe and hard, as ſometimes to render them unfit for uſe. The exportation of French luxuries in dreſs is enormous; Lyons furniſhes moſt of them; England ſends out bale goods; Brittany and the north, linens. Every commercial nation has a conſul reſident at Cadiz; thoſe of England and France are the only ones not allowed to have any concern in trade.

In 1596, Cadiz was taken, pillaged, and burnt by the Engliſh; but in 1702 it was attempted in conjunction with the Dutch, without ſucceſs.

CADIZADELITES, a ſect of Mahometans very like the ancient ſtoics. They ſhun feaſts and diverſions, and affect an extraordinary gravity in all their actions; they are continually talking of God, and ſome of them make a jumble of Chriſtianity and Mahometaniſm; they drink wine, even in the faſt of the ramazan; they love and protect the Chriſtians; they believe that Mahomet is the Holy Ghoſt, practiſe circumciſion, and juſtify it by the example of Jeſus Chriſt.

CADMEAN LETTERS, the ancient Greek or Ionic characters, ſuch as they were firſt brought by Cadmus from Phœnicia; whence Herodotus alſo calls them *Phœnician letters*.—According to ſome writers, Cadmus was not the inventor, nor even importer of the Greek letters, but only the modeller and reformer thereof; and it was hence they acquired the appellation *Cadmean* or *Phœnician letters*; whereas before that time they had been called *Peluſgian letters*.

CADMIA. See CALAMINE.

CADMUS, in fabulous hiſtory, king of Thebes, the ſon of Agenor king of Phœnicia, and the brother of Phœnix, Cilix, and Europa. He carried into Greece the 16 ſimple letters of the Greek alphabet; and there built Thebes, in Bœotia. The poets ſay,

Cadmus ‖ Caduceus.

that he left his native country in ſearch of his ſiſter Europa, whom Jupiter had carried away in the form of a bull; and that, inquiring of the Delphic oracle for a ſettlement, he was anſwered, that he ſhould follow the direction of a cow, and build a city where ſhe lay down. Having arrived among the Phocenſes, he was met by a cow, who conducted him through Bœotia to the place where Thebes was afterwards built: but as he was about to ſacrifice his guide to Pallas, he ſent two of his company to the fountain Dirce for water; when they being devoured by a ſerpent or dragon, he ſlew the monſter, and afterwards, by the advice of Pallas, ſowed his teeth, when there ſprung up a number of armed ſoldiers, who prepared to revenge the death of the ſerpent; but on his caſting a ſtone among theſe upſtart warriors, they turned their weapons againſt each other with ſuch animoſity, that only five ſurvived the combat, and theſe aſſiſted Cadmus in founding his new city. Afterwards, to recompence his labours, the gods gave him Harmonia, or Hermione, the daughter of Mars and Venus; and honoured his nuptials with preſents and peculiar marks of favour. But at length reſigning Thebes to Pentheus, Cadmus and Hermione went to govern the Eccleſienſes: when grown old, they were transformed into ſerpents; or, as others ſay, ſent to the Elyſian fields, in a chariot drawn by ſerpents. See Thebes.

Cadmus of Miletum, a celebrated Greek hiſtorian, was, according to Pliny, the firſt of the Greeks who wrote hiſtory in proſe. He flouriſhed about 550 before Chriſt.

CADORE, or Pieve na Canoae, a town of Italy, in the territory of Venice, and capital of a diſtrict called *Cadorino*; famous for the birth of Titian the painter. E. Long. 13. 45. N. Lat. 46. 25.

CADORINO, a province of Italy, in the territory of Venice; bounded on the eaſt by Friuli Proper, on the ſouth and weſt by the Belluneſe, and by the biſhopric of Brixen on the north. It is a very mountainous country, but pretty populous. The only town is Pieve de Cadore.

CADRITES, a ſort of Mahometan friars, who once a-week ſpend a great part of the night in turning round, holding each others hand, and repeating inceſſantly the word *hai*, which ſignifies *living*, and is one of the attributes of God; during which one of them plays on a flute. They never cut their hair, nor cover their heads; and always go bareſooted: they have liberty to quit their convent when they pleaſe, and to marry.

CADSAND, an iſland on the coaſt of Dutch Flanders, ſituated at the mouth of the Scheld, whereby the Dutch command the navigation of that river.

CADUCEUS, in antiquity, Mercury's rod or ſceptre, being a wand entwiſted by two ſerpents borne by that deity as the enſign of his quality and office, given him, according to the fable, by Apollo, for his ſeven-ſtringed harp. Wonderful properties are aſcribed to this rod by the poets; as laying men aſleep, raiſing the dead, &c.

It was alſo uſed by the ancients as a ſymbol of peace and concord: the Romans ſent the Carthaginians a javelin and a caduceus, offering them their choice either of war or peace. Among that people, thoſe who denounced war were called *feciales*; and thoſe who went to demand peace, *caduceatores*, becauſe they bore a caduceus in their hand. Caduci ‖ Cælius.

The caduceus found on medals is a common ſymbol, ſignifying good conduct, peace, and proſperity. The rod expreſſes power, the two ſerpents prudence, and the two wings diligence.

CADUCI, (from *cado* to "fall"); the name of a claſs in Linnæus's *calycina*, conſiſting of plants whoſe calyx is a ſimple perianthium, ſupporting a ſingle flower or fructification, and falling off either before or with the petals. It ſtands oppoſed to the *claſſes perſiſtentes* in the ſame method, and is exemplified in muſtard and ranunculus.

CADURCI, Cadurcum, *Cadurcus*, and *Cadurx*, (anc. geog.), a town of the Cadurci, a people of Aquitania; ſituated between the rivers Oldus, running from the north, and the Tarnis from the ſouth, and falling into the Garumna: now *Cahors*, capital of the territory of the Querci, in Guienne. A part of the Cadurci, to the ſouth next the Tarnis, were called *Eleutheri*.

CADUS, in antiquity, a wine-veſſel of a certain capacity, containing 80 amphoræ or firkins; each of which, according to the beſt accounts, held nine gallons.

CADUSII (anc. geog.), a people of Media Atropatene, ſituated to the weſt in the mountains, and reaching to the Caſpian ſea; between whom and the Medes, perpetual war and enmity continued down to the time of Cyrus.

CÆCILIA, in zoology, a genus of ſerpents belonging to the amphibia claſs. The cæcilia has no ſcales; it is ſmooth, and moves by means of lateral rugæ or prickles. The upper lip is prominent, and furniſhed with two tentacula. It has no tail. There are but two ſpecies of this ſerpent, viz. 1. The tentaculata, has 135 rugæ. It is about a foot long, and an inch in circumference, preſerving an uniform cylindrical ſhape from the one end to the other. The teeth are very ſmall. It has ſuch a reſemblance to an eel, that it may eaſily be miſtaken for one; but as it has neither fins nor gills, it cannot be claſſed with the fiſhes. It is a native of America, and its bite is not poiſonous. 2. The glutinoſa, has 340 rugæ or prickles above, and 10 below, the anus. It is of a browniſh colour, with a white line on the ſide, and is a native of the Indies.

CÆCUM, or Coecum, the blind gut. See Anatomy, N° 93.

CÆLIUM (anc. geog.), an inland town of Peucetia, a diviſion of Apulia; a place four or five miles above Barium or Bari, and which ſtill retains that name.

CÆLIUS Mons, (Itinerary); a town of Vindelicia, on the right or weſt ſide of the Ilargus. Now *Kelmunz*, a ſmall town of Suabia, on the Iller.

Cælius Mons at Rome. See Coelius.

Cælius (Aurelianus), an ancient phyſician, and the only one of the ſect of the methodiſts of whom we have any remains. He was of Sicca, a town of Numidia; but in what age he lived, cannot be determined: it is probable, however, that he lived before Galen; ſince, though he carefully mentions all the phyſicians before him, he takes no notice of Galen. He had read over very diligently the ancient phyſi-

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Caermarthen-ſhire

ciana of all ſects; and we are indebted to him for the knowledge of many dogmas which are not to be found but in his books *de celeribus et tardis paſſionibus*. He wrote, as he himſelf tells us, ſeveral other works; but they are all periſhed.

CAEN, an handſome and conſiderable town of France, capital of Lower Normandy, with a celebrated univerſity, and an academy of literature. It contains 60 ſtreets, and 12 pariſhes. It has a caſtle with four towers, which were built by the Engliſh. The town-houſe is a large building with four great towers. The royal ſquare is the handſomeſt in all Normandy, and has fine houſes on three ſides of it; and in the middle is the ſtatue of Louis XIV. in a Roman habit, ſtanding on a marble pedeſtal, and ſurrounded with an iron balluſtrade. It is ſeated in a pleaſant country on the river Orne, about eight miles from the ſea. William the conqueror was buried here, in the abbey of St Stephen, which he founded. W. Long. 0. 27. N. Lat. 49. 11.

CÆRE, (anc. geog.), a town of Etruria, the royal reſidence of Mezentius. Its ancient name was *Argylla*. In Strabo's time not the leaſt veſtige of it remained, except the baths called *caretana*. From this town the Roman cenſor's tables were called *cærites tabulæ*. In theſe were entered the names of ſuch as for ſome miſdemeanor forfeited their right of ſuffrage, or were degraded from a higher to a leſs honourable tribe. For the people of Cære hoſpitably receiving thoſe Romans who, after the taking of Rome by the Gauls, fled with their gods and the ſacred fire of Veſta, were, on the Romans recovering themſelves from this diſaſter, honoured with the privilege of the city, but without a right of voting.

CÆRITES TABULÆ. See the preceding article.

CAERFILLY, a town of Glamorganſhire in South Wales, ſeated between the rivers Taff and Rumney, in a mooriſh ground, among the hills. It is thought the walls, now in ruins, were built by the Romans; there being often Roman coins dug up there. W. Long. 3. 12. N. Lat. 51. 25.

CAERLEON, a town of Monmouthſhire in England, and a place of great antiquity. It was a Roman town, as is evident from the many Roman antiquities found here. It is commodiouſly ſituated on the river Uſk, over which there is a large wooden bridge. The houſes are generally built of ſtone, and there are the ruins of a caſtle ſtill to be ſeen. W Long. 3. 0. N. Lat. 51. 40.

CAERMARTHEN-SHIRE, a county of Wales, bounded on the north by Severn ſea or St George's Channel, Cardiganſhire on the ſouth, the ſhires of Brecknock and Glamorgan on the eaſt, and Pembrokeſhire on the weſt. Its greateſt length is between 30 and 40 miles, and its breadth upwards of 20. The air is wholeſome, and the ſoil leſs rocky and mountainous than moſt other parts of Wales, and conſequently is proportionally more fertile both in corn and paſture. It has alſo plenty of wood, and is well ſupplied with coal and limeſtone. The moſt conſiderable rivers are the Towy, the Cothy, and the Tave; of which, the firſt abounds with excellent ſalmon. The principal towns are Caermarthen the capital, Kidwely, Lanimdovery, &c. This county abounds with ancient forts, camps, and tumuli or barrows. Near to Caermarthen, towards the eaſt, may be ſeen the ruins of Kaſtelk Karrey, which was ſituated on a ſteep and inacceſſible rock; and alſo ſeveral vaſt caverns, ſuppoſed to have been copper-mines of the Romans. Near this ſpot is a fountain which ebbs and flows twice in 24 hours like the ſea.

Caermarthen ‖ Caernarvon.

CAERMARTHEN, a town of Wales, and capital of the county of that name. It is ſituated on the river Fowey, over which it has a fine ſtone-bridge. It is of great antiquity, being the Maridunum of Ptolemy. It is a populous, thriving, and polite place, many of the neighbouring gentry reſiding there in the winter. It is a corporation and county of itſelf, with power to make by-laws. Here were held the courts of chancery and exchequer for South Wales, till the whole was united to England in the reign of Henry VIII. Here was born the famous conjurer Merlin; and near the town is a wood called *Merlin's grove*, where he is ſaid to have often retired for contemplation. Many of his pretended prophecies are ſtill preſerved in the country. The town gives the title of *marquis* to his grace the duke of Leeds. It ſends one member to parliament, and the county another.

CAERNARVON-SHIRE, a county of Wales, bounded on the north and weſt by the ſea, on the ſouth by Merionethſhire, and on the eaſt is divided from Denbighſhire by the river Conway. It is about 40 miles in length, and 20 in breadth; and ſends one member to parliament for the ſhire, and another for the borough of Caernarvon. The air is very piercing; owing partly to the ſnow, that lies ſeven or eight months of the year upon ſome of the mountains, which are ſo high that they are called the *Britiſh Alps*; and partly to the great number of lakes, which are ſaid not to be fewer than 50 or 60. The ſoil in the valleys on the ſide next Ireland is pretty fertile, eſpecially in barley; great numbers of black cattle, ſheep, and goats, are fed on the mountains; and the ſea, lakes, and rivers, abound with variety of fiſh. The higheſt mountains in the county are thoſe called *Snowdon hills*, and *Pen-maen-mawr*, which laſt hangs over the ſea. There is a road cut out of the rock on the ſide next the ſea, guarded by a wall running along the edge of it on that ſide; but the traveller is ſometimes in danger of being cruſhed by the fall of pieces of the rock from the precipices above. The river Conway, though its courſe from the lake out of which it iſſues to its mouth is only 12 miles, yet is ſo deep, in conſequence of the many brooks it receives, that it is navigable by ſhips of good burden for eight miles. Pearls are found in a large black muſcle taken in this river. The principal towns are Bangor, Caernarvon the capital, and Conway. In this county is an ancient road ſaid to have been made by Helena the mother of Conſtantine the Great; and Matthew of Weſtminſter aſſerts, that the body of Conſtantius the father of the ſame Conſtantine was found at Caernarvon in the year 1283, and interred in the pariſh-church there by order of Edward I.

CAERNARVON, a town of Wales, and capital of the county of that name. It was built by Edward I. near the ſite of the ancient Segontium, after his conqueſt of the country in 1282, the ſituation being well adapted to overawe his new ſubjects. It had natural requiſites for ſtrength; being bounded on one ſide by the arm of the ſea called the *Menai*; by the eſtuary of the Scions

Caernarvon
||
Cæſalpina.

Scionț on another, exactly where it receives the tide from the former; on a third ſide, and a part of the fourth, by a creek of the Menai; and the remainder has the appearance of having the inſulation completed by art. Edward undertook this great work immediately after his conqueſt of the country in 1282, and completed the fortifications and caſtle before 1284; for his queen, on April 25th in that year, brought forth within its walls Edward, firſt prince of Wales of the Engliſh line. It was built within the ſpace of one year, by the labour of the peaſants, and at the coſt of the chieftains of the country, on whom the conqueror impoſed the hateful taſk. The external ſtate of the walls and caſtle, Mr Pennant informs us, are at preſent exactly as they were in the time of Edward. The walls are defended by numbers of round towers, and have two principal gates: the eaſt, facing the mountains; the weſt, upon the Menai. The entrance into the caſtle is very auguſt, beneath a great tower, on the front of which appears the ſtatue of the founder, with a dagger in his hand, as if menacing his new-acquired unwilling ſubjects. The gate had four portcullifes, and every requiſite of ſtrength. The towers are very beautiful. The Eagle tower is remarkably fine, and has the addition of three ſlender angular turrets iſſuing from the top. Edward II. was born in a little dark room in this tower, not twelve feet long nor eight in breadth: ſo little did, in thoſe days, a royal conſort conſult either pomp or conveniency. The gate through which the affectionate Eleanor entered, to give the Welſh a prince of their own, who could not ſpeak a word of Engliſh, is at the fartheſt end, at a vaſt height above the outſide ground; ſo could only be approached by a draw-bridge. The quay is a moſt beautiful walk along the ſide of the Menai, and commands a moſt agreeable view.

Caernarvon is deſtitute of manufactures, but has a briſk trade with London, Briſtol, Liverpool, and Ireland, for the ſeveral neceſſaries of life. It is the reſidence of numbers of genteel families, and contains ſeveral very good houſes. Edward I. beſtowed on this town its firſt royal charter, and made it a free borough. Among other privileges, none of the burgeſſes could be convicted of any crime committed between the rivers Conway and Dyſe, unleſs by a jury of their own townſmen. It is governed by a mayor, who, by patent, is created governor of the caſtle. It has one alderman, two bailiffs, a town-clerk, and two ſerjeants at mace. The repreſentative of the place is elected by its burgeſſes, and thoſe of Conway, Pwllheli, Nefyn, and Criccaeth. The right of voting is in every one, reſident or non-reſident, admitted to their freedom. The town gives title of *earl* and *marquis* to the duke of Chandos, and has a good tide-harbour.

CAERWIS, a market-town of Flintſhire in North Wales, ſituated in W. Long. 3. 25. N. Lat. 53. 20.

CÆSALPINIA Brasiletto, or *Braſil-wood*: a genus of the monogynia order, belonging to the decandria claſs of plants; and in the natural method ranking under the 33d order, *Lomentaceæ*. The calyx is quinquefid, with the loweſt ſegment larger in proportion. There are five petals, with the loweſt more beautiful than the reſt. It is a leguminous plant. Of this there are three ſpecies, the moſt remarkable of which is the braſilienſis, commonly called *Braſiletto*. It grows naturally in the warmeſt parts of America, from whence the wood is imported for the dyers, who uſe it much. The demand has been ſo great, that none of the large trees are left in any of the Britiſh plantations; ſo that Mr Cateſby owns himſelf ignorant of the dimenſions to which they grow. The largeſt remaining are not above two inches in thickneſs, and eight or nine feet in height. The branches are ſlender and full of ſmall prickles; the leaves are pinnated; the lobes growing oppoſite to one another, broad at their ends, with one notch. The flowers are white, papilionaceous, with many ſtamina and yellow apices, growing in a pyramidal ſpike, at the end of a long ſlender ſtalk: the pods incloſe ſeveral ſmall round ſeeds. The colour produced from this wood is greatly improved by ſolution of tin in aqua regia*. The ſecond ſort is a native of the ſame countries with the firſt, but is of a larger ſize. It ſends out many weak irregular branches, armed with ſhort, ſtrong, upright thorns. The leaves branch out in the ſame manner as the firſt; but the lobes, or ſmall leaves, are oval and entire. The flowers are produced in long ſpikes like thoſe of the former, but are variegated with red. Theſe plants may be propagated from ſeeds, which ſhould be ſown in ſmall pots filled with light rich earth early in the ſpring, and plunged in a bed of tanner's bark. Being tender, they require to be always kept in the ſtove, and to be treated in the ſame manner as other exotics of that kind.

Cæſalpinus Cæſar. Plate CXV.

* See *Colour making* and *Dyeing*.

CÆSALPINUS of Arezzo, profeſſor at Piſa, and afterwards phyſician to pope Clement VIII. one of the capital writers in botany. See Botany, p. 419, 420.

CÆSAR (Julius), the illuſtrious Roman general and hiſtorian, was of the family of the Julii, who pretended they were deſcended from Venus by Æneas. The deſcendants of Aſcanius ſon of Æneas and Creuſa, and ſurnamed *Julius*, lived at Alba till that city was ruined by Tullus Hoſtilius king of Rome, who carried them to Rome, where they flouriſhed. We do not find that they produced more than two branches. The firſt bore the name of *Tullus*, the other that of *Ceſar*. The moſt ancient of the Cæſars were thoſe who were in public employments in the 11th year of the firſt Punic war. After that time we find there was always ſome of that family who enjoyed public offices in the commonwealth, till the time of Caius Julius Cæſar, the ſubject of this article. He was born at Rome the 12th of the month Quintilis, year of the city 653, and loſt his father an. 669. By his valour and eloquence he ſoon acquired the higheſt reputation in the field and in the ſenate. Beloved and reſpected by his fellow-citizens, he enjoyed ſucceſſively every magiſterial and military honour the republic could beſtow conſiſtent with its own free conſtitution. But at length having ſubdued Pompey the great rival of his growing power, his boundleſs ambition effaced the glory of his former actions: for, purſuing his favourite maxim, "that he had rather be the firſt man in a village than the ſecond in Rome," he procured himſelf to be choſen perpetual dictator; and, not content with this unconſtitutional power, his faction had reſolved to raiſe him to the imperial dignity; when the friends of the civil liberties of the republic raſhly aſſaſſinated him in the ſenate-houſe, where they ſhould only have ſeized him and brought him to a legal trial for uſurpation. By this impolitic

Cæſar. impolitic meaſure they defeated their own purpoſe, involving the city in conſternation and terror, which produced general anarchy, and paved the way to the revolution they wanted to prevent; the monarchial government being abſolutely founded on the murder of Julius Cæſar. He fell in the 56th year of his age, 43 years before the Chriſtian æra. His commentaries contain a hiſtory of his principal voyages, battles, and victories. The London edition in 1712, in folio, is preferred.

The detail of Cæſar's tranſactions (ſo far as is conſiſtent with the limits of this work) being given under the article Rome, we ſhall here only add a portrait of him as drawn by a philoſopher*.

* From the *Melanges Philoſophiques* of M. Oihelbe.

"If, after the lapſe of 18 centuries, the truth may be puhliſhed without offence, a philoſopher might, in the following terms, cenſure Cæſar without calumniating him, and applaud him without exciting his bluſhes.

"Cæſar had one predominant paſſion: it was the love of glory; and he paſſed 40 years of his life in ſeeking opportunities to foſter and encourage it. His ſoul, entirely abſorbed in ambition, did not open itſelf to other impulſes. He cultivated letters; but he did not love them with enthuſiaſm, becauſe he had not leiſure to become the firſt orator of Rome. He corrupted the one half of the Roman ladies, but his heart had no concern in the fiery ardours of his ſenſes. In the arms of Cleopatra, he thought of Pompey; and this ſingular man, who diſdained to have a partner in the empire of the world, would have bluſhed to have been for one inſtant the ſlave of a woman.

"We muſt not imagine, that Cæſar was born a warrior, as Sophocles and Milton were born poets. For, if nature had made him a citizen of Sybaris, he would have been the moſt voluptuous of men. If in our days he had been born in Penſylvania, he would have been the moſt inoffenſive of quakers, and would not have diſturbed the tranquillity of the new world.

"The moderation with which he conducted himſelf after his victories, has been highly extolled; but in this he ſhowed his penetration, not the goodneſs of his heart. Is it not obvious, that the diſplay of certain virtues is neceſſary to put in motion the political machine? It was requiſite that he ſhould have the appearance of clemency, if he inclined that Rome ſhould forgive him his victories. But what greatneſs of mind is there in a generoſity which follows on the uſurpation of ſupreme power?

"Nature, while it marked Cæſar with a ſublime character, gave him alſo that ſpirit of perſeverance which renders it uſeful. He had no ſooner begun to reflect, than he admired Sylla; hated him, and yet wiſhed to imitate him. At the age of 15, he formed the project of being dictator. It was thus that the preſident Monteſquieu conceived, in his early youth, the idea of the ſpirit of laws.

"Phyſical qualities, as well as moral cauſes, contributed to give ſtrength to his character. Nature, which had made him for command, had given him an air of dignity. He had acquired that ſoft and inſinuating eloquence, which is perfectly ſuited to ſeduce vulgar minds, and has a powerful influence on the moſt cultivated. His love of pleaſure was a merit with the fair ſex; and women, who even in a republic can draw to them the ſuffrages and attention of men, have the higheſt importance in degenerate times. The ladies of his age were charmed with the proſpect of having a dictator whom they might ſubdue by their attractions. Cæſar.

"In vain did the genius of Cato watch for ſome time to ſuſtain the liberty of his country. It was unequal to contend with that of Cæſar. Of what avail were the eloquence, the philoſophy, and the virtue of this republican, when oppoſed by a man who had the addreſs to debauch the wife of every citizen whoſe intereſt he meant to engage; who, poſſeſſing an enthuſiaſm for glory, wept, becauſe, at the age of 30, he had not conquered the world like Alexander; and who, with the haughty temper of a deſpot, was more deſirous to be the firſt man in a village than the ſecond in Rome.

"Cæſar had the good fortune to exiſt in times of trouble and civil commotions, when the minds of men are put into a ferment; when opportunities of great actions are frequent; when talents are every thing, and thoſe who can only boaſt of their virtues are nothing. If he had lived an hundred years ſooner, he would have been no more than an obſcure villain; and, inſtead of giving laws to the world, would not have been able to produce any confuſion in it.

"I will here be bold enough to advance an idea, which may appear paradoxical to thoſe who weakly judge of men from what they atchieve, and not from the principle which leads them to act. Nature formed in the ſame mould Cæſar, Mahomet, Cromwell, and Kouli Khan. They all of them united to genius that profound policy which renders it ſo powerful. They all of them had an evident ſuperiority over thoſe with whom they were ſurrounded; they were conſcious of this ſuperiority, and they made others conſcious of it. They were all of them born ſubjects, and became fortunate uſurpers. Had Cæſar been placed in Perſia, he would have made the conqueſt of India; in Arabia, he would have been the founder of a new religion; in London, he would have ſtabbed his ſovereign, or have procured his aſſaſſination under the ſanction of the laws. He reigned with glory over men whom he had reduced to be ſlaves; and, under one aſpect, he is to be conſidered as a hero; under another, as a monſter. But it would be unfortunate, indeed, for ſociety, if the poſſeſſion of ſuperior talents gave individuals a right to trouble its repoſe. Uſurpers accordingly have flatterers, but no friends; ſtrangers reſpect them; their ſubjects complain and ſubmit; it is in their own families that humanity finds her avengers. Cæſar was aſſaſſinated by his ſon, Mahomet was poiſoned by his wife, Kouli Khan was maſſacred by his nephew, and Cromwell only died in his bed becauſe his ſon Richard was a philoſopher.

"Cæſar, the tyrant of his country; Cæſar, who deſtroyed the agents of his crimes, if they failed in addreſs; Cæſar, in fine, the huſband of every wife, and the wife of every huſband; has been accounted a great man by the moſt of writers. But it is only the philoſopher who knows how to mark the barrier between celebrity and greatneſs. The talents of this ſingular man, and the good fortune which conſtantly attended him till the moment of his aſſaſſination, have concealed the enormity of his actions."

Cæsar, in Roman antiquity, a title borne by all the

Cæſar || Cæſarians.

the emperors, from Julius Cæſar to the deſtruction of the empire. It was alſo uſed as a title of diſtinction for the intended or preſumptive heir of the empire, as *king of the Romans* is now uſed for that of the German empire.

This title took its riſe from the ſurname of the firſt emperor, C. Julius Cæſar, which, by a decree of the ſenate, all the ſucceeding emperors were to bear. Under his ſucceſſor, the appellation of *Auguſtus* being appropriated to the emperors, in compliment to that prince, the title *Cæſar* was given to the ſecond perſon in the empire, though ſtill it continued to be given to the firſt; and hence the difference betwixt Cæſar uſed ſimply, and Cæſar with the addition of Imperator Auguſtus.

The dignity of Cæſar remained to the ſecond of the empire, till Alexius Comnenus having elected Nicephorus Meliſſeans Cæſar, by contract; and it being neceſſary to confer ſome higher dignity on his own brother Iſaacius, he created him Sebaſtocrator, with the precedency over Meliſſeaus; ordering, that in all acclamations, &c. Iſaacius Sebaſtocrator ſhould be named the ſecond, and Meliſſenus Cæſar the third.

Cæsar (Sir Julius), a learned civilian, was deſcended by the female line from the duke de Ceſarini in Italy; and was born near Tottenham in Middleſex, in the year 1557. He was educated at Oxford, and afterwards ſtudied in the univerſity of Paris, where, in the year 1581, he was created doctor of the civil law, and two years after was admitted to the ſame degree at Oxford, and alſo became doctor of the canon law. He was advanced to many honourable employments, and for the laſt 20 years of his life was maſter of the rolls. He was remarkable for his extenſive bounty and charity to all perſons of worth, ſo that he ſeemed to be the almoner-general of the nation. He died 1639, in the 79th year of his age. It is very remarkable that the manuſcripts of this lawyer were offered (by the executors of ſome of his deſcendants) to a cheeſemonger for waſte-paper; but being timely inſpected by Mr Samuel Paterſon, this gentleman diſcovered their worth, and had the ſatisfaction to find his judgment confirmed by the profeſſion, to whom they were ſold in lots for upwards of 500 *l.* in the year 1757.

Cæsar Auguſta or *Ceſarea Auguſta*, (anc geog.), a Roman colony ſituated on the river Iberus in the hither Spain, before called *Salduba*, in the territories of the Edetani. Now commonly thought to be Saragoſa.

CÆSAREA, the name of ſeveral ancient cities, particularly one on the coaſt of Phœnice. It was very conveniently ſituated for trade; but had a very dangerous harbour, ſo that no ſhips could be ſafe in it when the wind was at ſouth-weſt. Herod the Great king of Judea remedied this inconveniency at an immenſe expence and labour, making it one of the moſt conveaient havens on that coaſt. He alſo beautified it with many buildings, and beſtowed 12 years in the finiſhing and adorning it.

CÆSARIAN operation. See Midwifery.

CÆSARIANS, *Ceſarienſes*, in Roman antiquity, were officers of miniſters of the Roman emperors. They kept the account of the revenues of the emperors; and took poſſeſſion, in their name, of ſuch things as devolved or were confiſcated to them.

Cæſarodunum || Caffa.

CÆSARODUNUM (anc. geog.), a town of the Turones in Celtic Gaul; now *Tours*, the capital of Touraine. See Tours.

CÆSAROMAGUS (anc. geog.), a town of the Trinobantes in Britain; by ſome ſuppoſed to be *Chelmsford*, by others *Brentford*, and by others *Burſtet*.

CÆSENA (anc. geog.), a town of Gallia Ciſpadana, ſituated on the rivers Iſapis and Rubicon; now Cæsena, which ſee.

CÆSIA sylva (anc. geog.), a wood in Germany, part of the great Sylva Hercynia, ſituated partly in the duchy of Cleves, and partly in Weſtphalia between Weſel and Kenfield.

CÆSONES, a denominatioa given to thoſe cut out of their mother's wombs. Pliny ranks this as an auſpicious kind of birth; the elder Scipio Africanus, and the firſt family of Cæſars, were brought into the world in this way.

CÆSTUS, in antiquity, a large gauntlet made of raw hide, which the wreſtlers made uſe of when they fought at the public games.—This was a kind of leathern ſtrap, ſtrengthened with lead or plates of iron, which encompaſſed the hand, the wriſt, and a part of the arm, as well to defend theſe parts as to enforce their blows.

Cæstus, or *Caſtum*, was alſo a kind of girdle, made of wool, which the huſband untied for his ſpouſe the firſt day of marriage, before they went to bed.

This relates to Venus's girdle, which Juno borrowed of her to entice Jupiter to love her. See Cestus.

CÆSURA, in the ancient poetry, is when, in the ſcanning of a verſe, a word is divided ſo, as one part ſeems cut off, and goes to a different foot from the reſt; as,

Menti|ri noſti, mun|quam men|dacia |proſunt.

where the ſyllables *ri*, *li*, *quam*, and *men*, are cæſuras.

Cæsure, in the modern poetry, denotes a reſt or pauſe towards the middle of an Alexandrian verſe, by which the voice and pronunciation are aided, and the verſe, as it were, divided into two hemiſtichs. See Pause.

CÆTERIS paribus, a Latin term in frequent uſe among mathematical and phyſical writers. The words literally ſignify, *the reſt* (or *other things*) *being alike or equal*. Thus we ſay the heavier the bullet, *cæteris paribus*, the greater the range; *i. e.* by how much the bullet is heavier, if the length and diameter of the piece and ſtrength of the powder be the ſame, by ſo much will the utmoſt range or diſtance of a piece of ordnance be the greater. Thus alſo, in a phyſical way, we ſay, the velocity and quantity circulating in a given time through any ſection of an artery, will, *cæteris paribus*, be according to its diameter, and nearneſs to or diſtance from the heart.

CÆTOBRIX (anc. geog.), a town of Luſitania, near the mouth of the Tagus on the eaſt ſide; now extinct. It had its name from its fiſhery; and there are ſtill extant fiſh-ponds on the ſhore, done with plaſter of Paris, which illuſtrate the name of the ruined city.

CAFFA, in commerce, painted cotton-cloths manufactured in the Eaſt Indies, and ſold at Bengal.

Caffa, or *Kaffa*, a city and port-town of Crim-Tartary, ſituated on the ſouth-eaſt part of that peninſula. E. Long. 37. 0. N. Lat. 44. 55.

It

Caffila ll Cage.

It is the moſt conſiderable town in the country, and gives name to the ſtraits of Caffa, which runs from the Euxine or Black Sea, to the Palus Meotis, or ſea of Azoph.

CAFFILA, a company of merchants or travellers, who join together in order to go with more ſecurity through the dominions of the Grand Mogul, and through other countries on the continent of the Eaſt Indies.

The Caffila differs from a caravan, at leaſt in Perſia: for the caffila belongs properly to ſome ſovereign, or to ſome powerful company in Europe, whereas a caravan is a company of particular merchants, each trading upon his own account. The Engliſh and Dutch have each of them their caffila at Gambrow. There are alſo ſuch caffilas, which croſs ſome parts of the deſerts of Africa, particularly that called the *ſea of ſand*, which lies between the kingdom of Morocco and thoſe of Tombut and Gaigo. This is a journey of 400 leagues; and takes up two months in going, and as many in coming back; the caffila travelling only by night, on account of the exceſſive heat of that country. The chief merchandize they bring back conſiſts in gold duſt, which they call *atibar*, and the Europeans *tibir*.

CAFFILA on the coaſt of Guzerat or Cambaya, ſignifies a ſmall fleet of merchant-ſhips.

CAFFRARIA, the country of the Caffres or Hottentots, in the moſt ſouthern parts of Africa lying in the form of a creſcent about the inland country of Monomopata, between 35° ſouth latitude and the tropic of Capricorn: and bounded on the eaſt, ſouth, and weſt, by the Indian and Atlantic oceans. See HOTTENTOTS.

Moſt of the ſea-coaſts of this country are ſubject to the Dutch, who have built a fort near the moſt ſouthern promontory, called the *Cape of Good-Hope*.

CAG, or KEG, a barrel or veſſel, that contains from four to five gallons.

CAGANUS, or CACANUS, an appellation anciently given by the Huns to their kings. The word appears alſo to have been formerly applied to the princes of Muſcovy, now called *czar*. From the ſame alſo, probably, the Tartar title *cham* or *can*, had its origin.

CAGE, an incloſure made of wire, wicker, or the like, interwoven lattice-wiſe, for the confinement of birds or wild beaſts. The word is French, *cage*, formed from the Italian *gaggia*, of the Latin *cavea*, which ſignifies the ſame: *a caveis theatralibus in quibus includebantur fera*.

Beaſts were uſually brought to Rome ſhut up in oaken or beechen cages, artfully formed, and covered or ſhaded with boughs, that the creatures, deceived with the appearance of a wood, might fancy themſelves in their foreſt. The fiereer ſort were peot in iron cages, leſt wooden priſons ſhould be broke through. In ſome priſons there are iron cages for the cloſer confinement of criminals. The French laws diſtinguiſh two ſorts of bird-cages, viz. high or ſinging cages, and low or dumb-cages; thoſe who expoſe birds to ſale are obliged to put the hens in the latter, and the cocks in the former, that perſons may not be impoſed on by buying a hen for a cock.

CAGES (*cavea*), denote alſo places in the ancient amphitheatres, wherein wild beaſts were kept, ready to be let out for ſport. The *cavea* were a ſort of iron cages different from dens, which were under ground and dark; whereas the *cavea* being airy and light, the beaſts ruſhed out of them with more alacrity and fierceneſs than if they had been pent under ground.

Cage ll Cagliari.

CAGE, in carpentry, ſignifies an outer-work of timber, incloſing another within it. In this ſenſe we ſay, *the cage of a wind-mill*. The cage of a ſtair-caſe denotes the wooden ſides or walls which incloſe it.

CAGEAN, or CAGAYAN, a province of the iſland of Lytzen, or Manila, in the Eaſt Indies. It is the largeſt in the iſland, being 80 leagues in length, and 40 in breadth. The principal city is called *New Segovia*, and 15 leagues eaſtward from this city lies cape Bajador. Doubling that cape, and coaſting along 20 leagues from north to ſouth, the province of Cagean ends, and that of Illocos begins. The peaceable Cageans who pay tribute are about 9000; but there are a great many not ſubdued. The whole province is fruitful: the men apply themſelves to agriculture, and are of a martial diſpoſition; and the women apply to ſeveral works in cotton. The mountains afford food for a vaſt number of bees; in conſequence of which wax is ſo plenty, that all the poor burn it inſtead of oil. They make their candles after the following manner: they leave a ſmall hole at each end of a hollow ſtick for the wick to run through; and then, ſtopping the bottom, fill it with wax at the top: when cold, they break the mould, and take out the candle. On the mountains there is abundance of braſil, ebony, and other valuable woods. In the woods are ſtore of wild beaſts, as boars; but not ſo good as thoſe of Europe. There are alſo abundance of deer, which they kill for their ſkins and horns to ſell to the Chineſe.

CAGLI, an ancient epiſcopal town of Italy, in the duchy of Urbino, ſituated at the foot of the Apennine mountains. E. Long. 14. 12. N. Lat. 43. 30.

CAGLIARI (Paolo), called *Paulo Veroneſe*, an excellent painter, was born at Verona in the year 1532. Gabriel Cagliari his father was a ſculptor, and Antonio Badile his uncle was his maſter in painting. He was not only eſteemed the beſt of all the Lombard painters, but for his extenſive talents in the art was peculiarly ſtyled *Il pittor felice*, "the happy paioter;" and there is ſcarcely a church in Venice where ſome of his performances are not to be ſeen. De Piles ſays, that "his picture of the marriage at Cana, in the church of St George, is to be diſtinguiſhed from his other works, as being not only the triumph of Paul Veroneſe, but almoſt the triumph of painting itſelf." When the ſenate ſent Grimani, procurator of St Mark, to be their ambaſſador at Rome, Paul attended him, but did not ſtay long, having left ſome pieces at Venice unfiniſhed. Philip II. king of Spain, ſent for him to paint the Eſcurial, and made him great offers; but Paul excuſed himſelf from leaving his own country, where his reputation was ſo well eſtabliſhed, that moſt of the princes of Europe ordered their ſeveral ambaſſadors to procure ſomething of his hand at any rate. He was indeed highly eſteemed by all the principal men in his time; and ſo much admired by the great maſters, as well his contemporaries as thoſe who ſucceeded him, that Titian himſelf uſed to ſay, he was the ornament of his profeſſion. And Guido Reni being aſked which of the maſters his predeceſſors he would chooſe to be, were it in his power, after Raphael and Correggio,

Cagliari
ll
Cajetan.

gio, named Paul Veronefe; whom he always called his Paolino. He died of a fever at Venice in 1588, and had a tomb and a ſtatue of braſs erected to his memory in the church of St Sebaſtian. He left great wealth to his two ſons Gabriel and Charles, who lived happily together, and joined in finiſhing ſeveral of their father's imperfect pieces with good ſucceſs.

CAGLIARI, an ancient, large, and rich town, capital of the iſland of Sardinia in the Mediterranean. It is ſeated on the declivity of an hill, is an univerſity, an archbiſhoprie, and the reſidence of the viceroy. It has an excellent harbour, and a good trade; but is a place of no great ſtrength. It was taken, with the whole iſland, by the Engliſh in 1708, who transferred it to the emperor Charles VI.; but it was retaken by the Spaniards in 1717, and about two years afterwards ceded to the duke of Savoy in lieu of Sicily, and hence he has the title of *king of Sardinia*. E. Long. 9. 14. N. Lat. 39. 12.

CAGUI, in zoology, a ſynonyme of two ſpecies of monkeys, viz. the jacchus and œdipus. See SIMIA.

CAHORS, a conſiderable town of France, in Querci in Guienne, with a biſhop's ſee and an univerſity. It is ſeated on a peninſula made by the river Lot, and built partly on a craggy rock. The principal ſtreet is very narrow; and terminates in the market-place, in which is the town-houſe. The cathedral is a Gothic ſtructure, and has a large ſquare ſteeple. The fortifications are regular, and the town is ſurrounded with thick walls. E. Long. 1. 6. N. Lat. 44. 26.

CAHYS, a dry meaſure for corn, uſed in ſome parts of Spain, particularly at Seville and at Cadiz. It is near a buſhel of our meaſure.

CAJANABURG, the capital of the province of Cajania or Eaſt Bothnia in Sweden, ſituated on the north-eaſt part of the lake Cajania, in E. Long. 27. 0. N. Lat. 63. 50.

CAIPHAS, high-prieſt of the Jews after Simon, condemned Chriſt to death; and was put out of his place by the emperor Vitellius, for which diſgrace he made away with himſelf.

CAJAZZO, a town of the province of Lavoro in the kingdom of Naples, ſituated in E. Long. 15. 0. N. Lat. 41. 15.

CAICOS, the name of ſome American iſlands to the north of St Domingo, lying from W. Long. 112. 10. to 113. 16. N. Lat 21. 40.

CAJEPUT, an oil brought from the Eaſt Indies reſembling that of Cardamoms.

CAIETA, (anc. geog.), a port and town of Latium, ſo called from Æneas's nurſe; now *Gaeta*, which ſee.

CAJETAN (Cardinal), was born at Cajeta in the kingdom of Naples in the year 1469. His proper name was *Thomas de Vio*; but he adopted that of *Cajetan* from the place of his nativity. He defended the authority of the Pope, which ſuffered greatly at the council of Niee, in a work entitled *Of the power of the Pope*; and for this work he obtained the biſhopric of Cajeta. He was afterwards raiſed to the archiepiſcopal ſee of Palermo, and in 1517 was made a cardinal by Pope Leo X. The year after, he was ſent as legate into Germany, to quiet the commotions raiſed againſt indulgences by Martin Luther; but Luther, under protection of Frederic elector of Saxony, ſet him at defiance; for though he obeyed the cardinal's ſummons in repairing to Augſburg, yet he rendered all his proceedings ineffectual. Cajetan was employed in ſeveral other negociations and tranſactions, being as ready at buſineſs as at letters. He died in 1534. He wrote Commentaries upon Ariſtotle's philoſophy, and upon Thomas Aquinas's theology; and made a literal tranſlation of the Old and New Teſtaments.

Caifong,
Caille.

CAIFONG, a large, populous, and rich town of Aſia, in China, ſeated in the middle of a large and well cultivated plain. It ſtands in a bottom; and when beſieged by the rebels in 1642, they ordered the dykes of the river Hoangho to be cut, which drowned the city, and deſtroyed 300,000 of its inhabitants. E. Long. 113. 27. N. Lat. 35. 0.

CAILLE (Nicholas Louis de la), an eminent mathematician and aſtronomer, was born at a ſmall town in the dioceſe of Rheims in 1713. His father had ſerved in the army, which he quitted, and in his retirement ſtudied mathematics; and amuſed himſelf with mechanic exerciſes, wherein he proved the happy author of ſeveral inventions of conſiderable uſe to the public. Nicholas, almoſt in his infancy, took a fancy to mechanics, which proved of ſignal ſervice to him in his maturer years. He was ſent young to ſchool at Mantes-ſur-Seine, where he diſcovered early tokens of genius. In 1729, he went to Paris; where he ſtudied the claſſics, philoſophy, and mathematics. Afterwards he went to ſtudy divinity at the college de Navarre, propoſing to embrace an eccleſiaſtical life. At the end of three years he was ordained a deacon, and officiated as ſuch in the church of the college de Mazarin ſeveral years; but he never entered into prieſts orders, apprehending that his aſtronomical ſtudies, to which he became moſt aſſiduouſly devoted, might too much interfere with his religious duties. In 1739, he was conjoined with M. de Thury, ſon to M. Caſſini, in verifying the meridian of the royal obſervatory through the whole extent of the kingdom of France. In the month of November the ſame year, whilſt he was engaged day and night in the operations which this grand undertaking required, and at a great diſtance from Paris, he was, without any ſolicitation, elected into the vacant mathematical chair which the celebrated M. Varignon had ſo worthily filled. Here he began to teach about the end of 1740; and an obſervatory was ordered to be erected for his uſe in the college, and furniſhed with a ſuitable apparatus of the beſt inſtruments. In May 1741, M. de la Caille was admitted into the royal academy of ſciences as an adjoint member for aſtronomy. Beſides the many excellent papers of his diſperſed up and down in their memoirs, he publiſhed Elements of geometry, mechanics, optics, and aſtronomy. Moreover, he carefully computed all the eclipſes of the ſun and moon that had happened ſince the Chriſtian æra, which were printed in a book publiſhed by two Benedictines, entitled *l'Art de verifier les dates*, &c. Paris, 1750, in 4to. Beſides theſe, he compiled a volume of aſtronomical ephemerides for the years 1745 to 1755; another for the years 1755 to 1765; a third for the years 1765 to 1775; an excellent work entitled *Aſtronomiæ fundamenta noviſſimis ſolis et ſtellarum obſervationibus ſtabilita*; and the moſt correct ſolar tables that ever appeared. Having gone through a ſeven years ſeries of aſtronomical obſervations in his own obſervatory, he formed a project of going to obſerve the ſouthern ſtars at the

Caille. Cape of Good Hope. This was highly approved by the academy, and by the prime minister Comte de Argenson, and very readily agreed to by the states of Holland. Upon this, he drew up a plan of the method he proposed to pursue in his southern observations; setting forth, that, besides settling the places of the fixed stars, he proposed to determine the parallax of the moon, Mars, and Venus. But whereas this required correspondent observations to be made in the northern parts of the world, he sent to those of his correspondents who were expert in practical astronomy previous notice, in print, what observations he designed to make at such and such times for the said purpose. At length, on the 21st of November 1750, he sailed for the Cape, and arrived there on the 19th of April 1751. He forthwith got his instruments on shore; and, with the assistance of some Dutch artificers, set about building an astronomical observatory, in which his apparatus of instruments was properly disposed of as soon as it was in a fit condition to receive them.

The sky at the Cape is generally pure and serene, unless when a south-east wind blows. But this is often the case; and when it is, it is attended with some strange and terrible effects. The stars look bigger, and seem to caper; the moon has an undulating tremor; and the planets have a sort of beard like comets. Two hundred and twenty-eight nights did our astronomer survey the face of the southern heavens; during which space, which is almost incredible, he observed more than 10,000 stars; and whereas the ancients filled the heavens with monsters and old-wives tales, the abbe de la Caille chose rather to adorn them with the instruments and machines which modern philosophy has made use of for the conquest of nature*. With no less success did he attend to the parallax of the moon, Mars, Venus, and the sun. Having thus executed the purpose of his voyage, and no present opportunity offering for his return, he thought of employing the vacant time in another arduous attempt; no less than that of taking the measure of the earth, as he had already done that of the heavens. This indeed had, through the munificence of the French king, been done before by different sets of learned men both in Europe and America; some determining the quantity of a degree under the equator, and others under the arctic circle: but it had not as yet been decided whether in the southern parallels of latitude the same dimensions obtained as in the northern. His labours were rewarded with the satisfaction he wished for; having determined a distance of 410,814 feet from a place called *Klip-Fontyn* to the Cape, by means of a base of 38,802 feet, three times actually measured: whence he discovered a new secret of nature, namely, that the radii of the parallels in south latitude are not the same as those of the corresponding parallels in north latitude. About the 23d degree of south latitude he found a degree on the meridian to contain 342,222 Paris feet. He returned to Paris the 27th of September 1754; having in his almost four years absence expended no more than 9144 livres on himself and his companion; and at his coming into port, he refused a bribe of 100,000 livres, offered by one who thirsted less after glory than gain, to be sharer in his immunity from custom-house searches.

* See the Planisphere in his *Coelum australe stelliferum.*

After receiving the congratulatory visits of his more intimate friends and the astronomers, he first of all thought fit to draw up a reply to some strictures which professor Euler had published relative to the meridian, and then he settled the results of the comparison of his own with the observations of other astronomers for the parallaxes. That of the sun he fixed at 9½″; of the moon, at 56′ 56″; of Mars in his opposition, 36″; of Venus, 38″. He also settled the laws whereby astronomical refractions are varied by the different density or rarity of the air, by heat or cold, and dryness or moisture. And, lastly, he showed an easy, and by common navigators practicable, method of finding the longitude at sea by means of the moon, which he illustrated by examples selected from his own observations during his voyages. His fame being now established upon so firm a basis, the most celebrated academies of Europe claimed him as their own: and he was unanimously elected a member of the royal society at London; of the institute of Bologna; of the imperial academy at Petersburg; and of the royal academies of Berlin, Stockholm, and Gottingen. In the year 1760, Mr de la Caille was attacked with a severe fit of the gout; which, however, did not interrupt the course of his studies; for he then planned out a new and immense work, no less than a history of astronomy through all ages, with a comparison of the ancient and modern observations, and the construction and use of the instruments employed in making them. In order to pursue the task he had imposed upon himself in a suitable retirement, he obtained a grant of apartments in the royal palace of Vincennes; and whilst his astronomical apparatus was erecting there, he began printing his Catalogue of the southern stars, and the third volume of his Ephemerides. The state of his health was, towards the end of the year 1763, greatly reduced. His blood grew inflamed; he had pains of the head, obstructions of the kidneys, loss of appetite, with an oppletion of the whole habit. His mind remained unaffected, and he resolutely persisted in his studies as usual. In the month of March, medicines were administered to him, which rather aggravated than alleviated his symptoms; and he was now sensible, that the same distemper which in Africa, ten years before, yielded to a few simple remedies, did in his native country bid defiance to the best physicians. This induced him to settle his affairs: his manuscripts he committed to the care and discretion of his esteemed friend M. Maraldi. It was at last determined that a vein should be opened; but this brought on an obstinate lethargy, of which he died, aged 49.

Caille || Caimans Islands.

CAIMACAN, or CAIMACAM, in the Turkish affairs, a dignity in the Ottoman empire, answering to lieutenant, or rather deputy, amongst us.

There are usually two Caimacans; one residing at Constantinople, as governor thereof; the other attending the grand vizir in quality of his lieutenant, secretary of state, and first minister of his council, and gives audience to ambassadors. Sometimes there is a third caimacan, who attends the sultan; whom he acquaints with any public disturbances, and receives his orders concerning them.

CAIMAN ISLANDS, certain American islands lying south of Cuba, and north-west of Jamaica, between 81° and 86° of west longitude, and in 21 of north latitude. They are most remarkable on account of the

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Cain
ll
Cairns.

fiſhery of tortoiſe, which the people of Jamaica catch here, and carry home alive, keeping them in pens for food, and killing them as they want them.

CAIN, eldeſt ſon of Adam and Eve, killed his brother Abel; for which he was condemned by God to baniſhment and a vagabond ſtate of life. Cain retired to the land of Nod, on the eaſt of Eden; and built a city, to which he gave the name of his ſon Enoch.

CAINITES, a ſect of heretics in the 2d century, ſo called on account of their great reſpect for Cain. They pretended that the virtue which produced Abel was of an order inferior to that which had produced Cain, and that this was the reaſon why Cain had the victory over Abel and killed him; for they admitted a great number of genii, which they called *virtues*, of different ranks and orders. They made profeſſion of honouring thoſe who carry in Scripture the moſt viſible marks of reprobation; as the inhabitants of Sodom, Eſau, Korah, Dathan, and Ahiram. They had, in particular, a very great veneration for the traitor Judas, under pretence that the death of Jeſus Chriſt had ſaved mankind. They had a forged goſpel of Judas, to which they paid great reſpect.

CAIRNS, or Carns, the vulgar name of thoſe heaps of ſtones which are to be ſeen in many places of Britain, particularly Scotland and Wales.—They are compoſed of ſtones of all dimenſions thrown together in a conical form, a flat ſtone crowning the apex; (ſee Plate CXXVII.).

Various cauſes have been aſſigned by the learned for theſe heaps of ſtones. They have ſuppoſed them to have been, in times of inauguration, the places where the chieftain-elect ſtood to ſhow himſelf to beſt advantage to the people; or the place from whence judgment was pronounced; or to have been erected on the road-ſide in honour of Mercury; or to have been formed in memory of ſome ſolemn compact, particularly where accompanied by ſtanding pillars of ſtones; or for the celebration of certain religious ceremonies. Such might have been the reaſons, in ſome inſtances, where the evidences of ſtone-cheſts and urns are wanting: but theſe are ſo generally found, that they ſeem to determine the moſt uſual purpoſe of the piles in queſtion to have been for ſepulchral monuments. Even this deſtination might render them ſuitable to other purpoſes; particularly religious, to which by their nature they might be ſuppoſed to give additional ſolemnity.—According to Toland, fires were kindled on the tops or flat ſtones, at certain times of the year, particularly on the eves of the 1ſt of May and the 1ſt of November, for the purpoſe of ſacrificing; at which time all the people having extinguiſhed their domeſtic hearths rekindled them from the ſacred fires of the cairns. In general, therefore, theſe accumulations appear to have been deſigned for the ſepulchral protection of heroes and great men. The ſtone-cheſts, the repoſitory of the urns and aſhes, are lodged in the earth beneath: ſometimes only one, ſometimes more, are found thus depoſited; and Mr Pennant mentions an inſtance of 17 being diſcovered under the ſame pile.

Cairns are of different ſizes, ſome of them very large. Mr Penoant deſcribes one in the iſland of Arran, 114 feet over and of a vaſt height. They may juſtly be ſuppoſed to have been proportioned in ſize to the rank of the perſon, or to his popularity: the people of a whole diſtrict aſſembled to ſhow their reſpect to the deceaſed; and, by an active honouring of his memory, ſoon accumulated heaps equal to thoſe that aſtoniſh us at this time. But theſe honours were not merely thoſe of the day; as long as the memory of the deceaſed endured, not a paſſenger went by without adding a ſtone to the heap: they ſuppoſed it would be an honour to the dead, and acceptable to his manes.

Quamquam feſtinas, non eſt mora longa: licebit,
Injecto ter pulvere, curras.

To this moment there is a proverbial expreſſion among the highlanders alluſive to the old practice: a ſuppliant will tell his patron, *Curri mi cloch er do charne*, "I will add a ſtone to your cairn;" meaning, When you are no more, I will do all poſſible honour to your memory.

Cairns are to be found in all parts of our iſlands, in Cornwal, Wales, and all parts of North Britain; they were in uſe amoog the northern natiuns; Dahlberg, in his 323d plate, has given the figure of one. In Wales they are called *carneddau*; but the proverb taken from them there, is not of the complimental kind: *Karn ar dy ben*, or, "A cairn on your head," is a token of imprecation.

Cairo. CAIRO, or Grand Cairo, the capital of Egypt, ſituated in a plain at the foot of a mountain, in E. Long. 32. 0. N. Lat. 30. 0. It was founded by Jawhar, a Magrebian general, in the year of the Hegira 358. He had laid the foundations of it under the horoſcope of Mars; and for that reaſon gave his new city the name of *Al Kahirah*, or the *Victorious*, an epithet applied by the Arab aſtronomers to that planet. In 362 it became the reſidence of the kaliffs of Egypt, and of conſequence the capital of that country, and has ever ſince continued to be ſo. It is divided into the New and Old cities. Old Cairo is on the eaſtern ſide of the river Nile, and is now almoſt uninhabited. The New, which is properly Cairo, is ſeated in a ſandy plain about two miles and a half from the old city. It ſtands on the weſtern ſide of the Nile, from which it is not three quarters of a mile diſtant. It is extended along the mountain on which the caſtle is built, for the ſake of which it was removed hither, in order, as ſome pretend, to be under its protection. However, the change is much for the worſe, as well with regard to air as water, and the pleaſantneſs of the proſpect. Bulack may be called the port of Cairo; for it ſtands on the bank of the Nile, about a mile and a half from it, and all the corn and other commodities are landed there before they are brought to the city. Some travellers have made Cairo of a moſt enormous magnitude, by taking in the old city Bulack, and the new; the real circumference of it, however, is not above ten miles, but it is extremely populous. The firſt thing that ſtrikes a traveller is the narrowneſs of the ſtreets, and the appearance of the houſes. Theſe are ſo daubed with mud on the outſide, that you would think they were built with nothing elſe. Beſides, as the ſtreets are unpaved, and always full of people, the walking in them is very inconvenient, eſpecially to ſtrangers. To remedy this, there are a great number of aſſes, which always ſtand ready to be hired for a trifle, that is, a penny a mile. The owners drive

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Cairo

them along, and give notice to the crowd to make way. And here it may be obſerved, that the Chriſtians in this, as well as other parts of the Turkiſh dominions, are not permitted to ride upon horſes. The number of the inhabitants can only be gueſſed at; but we may conclude it to be very great, becauſe in ſome years the plague will carry off 200,000, without their being much miſſed. The houſes are from one to two or three ſtories high, and flat at the top; where they take the air, and often ſleep all night. The better ſort of theſe have a court on the inſide like a college. The common run of houſes have very little room, and even among great people it is uſual for 20 or 30 to lie in the ſmall hall. Some houſes will hold 300 perſons of both ſexes, among whom are 20 or 30 ſlaves, and thoſe of ordinary rank have generally three or four.

There is a canal called *Halis*, which runs along the city from one end to the other, with houſes on each ſide, which make a large ſtraight ſtreet. Beſides this, there are ſeveral lakes, which are called *birks* in the language of the country. The principal of theſe, which is near the caſtle, is 500 paces in diameter. The moſt elegant houſes in the city are built on its banks; but what is extraordinary, eight months in the year it contains water, and the other four it appears with a charming verdure. When there is water ſufficient, it is always full of gilded boats, barges, and barks, in which people of condition take their pleaſure towards night, at which time there are curious fire-works, and variety of muſic.

New Cairo is ſurrounded with walls built with ſtone, on which are handſome battlements, and at the diſtance of every hundred paces there are very fine towers, which have room for a great number of people. The walls were never very high, and are in many places gone to ruin. The baſha lives in the caſtle, which was built by Saladine ſeven hundred years ago. It ſtands in the middle of the famous mountain Moketan, which terminates in this place, after it had accompanied the Nile from Ethiopia hither. This caſtle is the only place of defence in Egypt; and yet the Turks take no notice of its falling, inſomuch that in proceſs of time it will become a heap of ruhhiſh. The principal part in it is a magnificent hall, environed with 12 columns of granite, of a prodigious height and thickneſs, which ſuſtain an open dome, under which Saladine diſtributed juſtice to his ſubjects. Round this dome there is an inſcription in relievo, which determines the date and by whom it was built. From this place the whole city of Cairo may be ſeen, and above 30 miles along the Nile, with the fruitful plains that lie near it, as well as the moſques, pyramids, villages, and gardens, with which theſe fields are covered. Theſe granite pillars were the work of antiquity, for they were got out of the ruins of Alexandria. There are likewiſe in the moſques and in the principal houſes no leſs than 40,000 more, beſides great magazines, where all kinds are to be had at very low rates. A janiſſary happened to find five in his garden, as large as thoſe in the caſtle; but could not find any machine of ſtrength ſufficient to move them, and therefore had them ſawed in pieces to make mill-ſtones. It is believed that there have been 30 or 40,000 of theſe pillars brought from Alexandria, where there are yet many more to be had. The gates of Cairo are three, which are very fine and magnificent. Cairo.

There are about 300 public moſques in this city, ſome of which have ſix minarets. The moſque of Aſhar hath ſeveral buildings adjoining, which were once a famous univerſity, and 14,000 ſcholars and ſtudents were maintained on the foundation; but has now not above 1400, and thoſe are only taught to read and write. All the moſques are built upon the ſame plan, and differ only in magnitude. The entrance is thro' the principal gate into a large ſquare, open on the top, but well paved. Round this are covered galleries, ſupported by pillars; under which they ſay their prayers, in the ſhade. On one ſide of the ſquare there are particular places with baſons of water, for the conveniency of performing the ablutions injoined by the Koran. The moſt remarkable part of the moſque, beſides the minaret, is the dome. This is often bold, well proportioned, and of an aſtoniſhing magnitude. The inſide ſtones are carved like lace, flowers, and melons. They are built ſo firm, and with ſuch art, that they will laſt 600 or 700 years. About the outward circumference there are large Arabic inſcriptions, in relievo, which may be read by thoſe who ſtand below, though they are ſometimes of a wonderful height.

The khanes or caravanſeras are numerous and large, with a court in the middle, like their houſes. Some are ſeveral ſtories high, and are always full of people and merchandiſe. The Nubians, the Abyſſinians, and other African nations, which come to Cairo, have one to themſelves, where they always meet with lodging. Here they are ſecure from inſults, and their effects are all ſafe. Beſides theſe, there is a bazar, or market, where all ſorts of goods are to be ſold. This is in a long broad ſtreet; and yet the crowd is ſo great, you can hardly paſs along. At the end of this ſtreet is another ſhort one, but pretty broad, with ſhops full of the beſt ſort of goods, and precious merchandiſe. At the end of this ſhort ſtreet there is a great khane, where all ſorts of white ſlaves are to be ſold. Farther than this is another khane, where a great number of blacks, of both ſexes, are expoſed to ſale. Not far from the heſt market-place is an hoſpital, and a moſque for mad people. They alſo receive and maintain ſick people into this hoſpital, but they are poorly looked after.

Old Cairo has ſcarce any thing remarkable but the granaries of Joſeph; which are nothing but a high wall, lately built, which includes a ſquare ſpot of ground, where they depoſite wheat, barley, and other grain, which is a tribute to the baſha, paid by the owners of land. This has no other covering but the heavens, and therefore the birds are always ſure to have their ſhare. There is likewiſe a tolerable handſome church, which is made uſe of by the Copts, who are Chriſtians and the original inhabitants of Egypt. Joſeph's well is in the caſtle, and was made by king Mohammed about 700 years ago. It is called *Joſeph's well*, becauſe they attribute every thing extraordinary to that remarkable perſon. It is cut in a rock, and is 280 feet in depth. The water is drawn up to the top by means of oxen, placed on platforms, at proper diſtances, which turn about the machines that raiſe it. The deſcent is ſo ſloping, that, though there are no ſteps, the oxen can deſcend and aſcend with eaſe.

The

Cairo ‖ Caithneſs.

The river Nile, to which not only Cairo, but all Egypt is ſo much indebted, is now known to have its riſe in Abyſſinia. The increaſe of the Nile generally begins in May, and in June they commonly proclaim about the city how much it is riſen. Over againſt old Cairo the baſha has a houſe, wherein the water enters to a column, which has lines at the diſtance of every inch, and marks at every two feet as far as 30. When the water riſes to 22 feet, it is thought to be of a ſufficient height; when it riſes much higher, it does a great deal of miſchief. There is much pomp and ceremony uſed in letting the water into the canal, or hali, above-mentioned. The baſha gives the firſt ſtroke towards the removal of the dike or dam. When the water has filled the canal and lakes in the city, and the numerous ciſterns that are in the moſques and private houſes, it is let into a vaſt plain, to the north-eaſt; the extent of which is 50 miles. When the country is covered with water, it is no unpleaſant ſight to view the towns appearing like little iſlands, and the people paſſing and repaſſing in boats.

The inhabitants of Cairo are a mixture of Moors, Turks, Jews, Greeks, and Cophts, or Coptis. The only difference between the habit of the Moors and Coptis is their turbans; thoſe of the Moors being white, and of the Coptis white ſtriped with blue. The common people generally wear a long black looſe frock, ſewed together all down before. The Jews wear a frock of the ſame faſhion, made of cloth; and their caps are like a high crowned hat, without brims, covered with the ſame cloth, but not ſo taper. The Jewiſh womens are not very unlike the mens, but more light and long. The Greeks are habited like the Turks, only their turbans differ.

Proviſions of all kinds are exceeding plenty; for 20 eggs may be bought for a parrah or penny, and bread is ſix times as cheap as with us. They have almoſt all ſorts of fleſh and fiſh; and in particular have tame buffaloes, which are very uſeful. They bring goats into the ſtreets in great numbers, to ſell their milk. Their gardens are well ſtocked with fruit-trees of various kinds, as well as roots, herbs, melons, and cucumbers. The moſt common fleſh meat is mutton. The goats are very beautiful, and have ears two feet in length; but their fleſh is in no great eſteem.

CAIROAN, or Caiawan, a city of Africa, in the kingdom of Tunis, ſeated in a ſandy barren ſoil, about five miles from the gulph of Capres. It has neither ſpring, well, nor river; for which reaſon they are obliged to preſerve rain-water in tanks and ciſterns. It was built by the Aglabites; and is the ancient Cyrene*, but hath now loſt its ſplendor. There is ſtill, however, a very ſuperb moſque, and the tombs of the kings of Tunis are yet to be ſeen. E. Long. 9. 12. N. Lat. 35. 40.

* See Barbary.

CAISSON, in the military art, a wooden cheſt, into which ſeveral bombs are put, and ſometimes filled only with gunpowder: this is buried under ſome work whereof the enemy intend to poſſeſs themſelves, and, when they are maſters of it, is fired, in order to blow them up.

Caisson is alſo uſed for a wooden frame or cheſt uſed in laying the foundations of the piers of a bridge.

CAITHNESS, otherwiſe called the *ſhire of Wick*, is the moſt northern county of all Scotland; bounded on the eaſt by the ocean, and by Strathnaver and Sutherland on the ſouth and ſouth-weſt: from theſe it is divided by the mountains Orde, and a continued ridge of hills as far as Knockfin, then by the whole courſe of the river Hallowdale. On the north it is waſhed by the Pentland or Putland frith, which flows between this county and the Orkneys. It extends 35 miles from north to ſouth, and about 20 from eaſt to weſt. The coaſt is rocky, and remarkable for a number of bays and promontories. Of theſe, the principal are Sandſide-head to the weſt, pointing to the opening of Pentland frith; Orcas, now Holborn-head, and Dunnet-head, both pointing northward to the frith. Dunnet-head, is a peninſula about a mile broad, and ſeven in compaſs; affording ſeveral lakes, good paſture, excellent mill-ſtones, and a lead-mine. Scribiſter bay, on the north-weſt, is a good harbour, where ſhips may ride ſecurely. Rice-bay, on the eaſt ſide, extends three miles in breadth; but is of dangerous acceſs, on account of ſome ſunk rocks at the entrance. At the bottom of this bay appear the ruins of two ſtrong caſtles, the ſeat of the Earl of Caithneſs, called *Caſtle Sinclair*, and Gernego, joined to each other by a draw-bridge. Duncan's bay, otherwiſe called *Dunſby-head*, is the north-eaſt point of Caithneſs, and the extremeſt promontory in Britain. At this place, the breadth of the frith does not exceed 12 miles, and in the neighbourhood is the ordinary ferry to the Orkneys. Here is likewiſe Clythneſs pointing eaſt, and Noſshead pointing north-eaſt. The ſea in this place is very impetuous, being in continual agitation from violent counter-tides, currents, and vortices. The only iſland belonging to this county is that of Stroma, in the Pentland frith, at the diſtance of two miles from the main land, extending about a mile in length, and producing good corn. The navigation is here rendered very difficult by conflicting tides and currents, which at both ends of the iſland produce a great agitation in the ſea. At the ſouth end, the waves dance ſo impetuouſly, that the ſailors term them the *merry men of May*, alluding to the houſe of one Mr May, on the oppoſite ſhore of Caithneſs, which ſerved them as a land-mark, in the dangerous paſſage between the iſland and the continent. The property of this iſland was once diſputed between the earls of Orkney and Caithneſs; but adjudged to the latter, in conſequence of an experiment, by which it appeared, that venomous creatures will live in Stroma, whereas they die immediately if tranſported to the Orkneys. The county of Caithneſs, though chiefly mountainous, flattens towards the ſea-coaſt, where the ground is arable, and produces good harveſts of oats and barley, ſufficient for the natives, and yielding a ſurplus for exportation. Caithneſs is well watered with ſmall rivers, brooks, lakes, and fountains, and affords a few woods of birch, but is in general bare of trees; and even thoſe the inhabitants plant are ſtunted in their growth. Lead is found at Dunnet, copper at Old Urk, and iron ore at ſeveral places; but theſe advantages are not improved. The air of Caithneſs is temperate, tho' in the latitude of 58, where the longeſt day in ſummer is computed at 18 hours; and when the ſun ſets, he makes ſo ſmall an arch of a circle below the horizon, that the people enjoy a twilight until he riſes again. The fuel uſed by the inhabitants of Caithneſs conſiſts of peat and turf, which the ground yields in great plenty. The

Caithneſs.

forefts.

Caithneſs. foreſts of Moravins and Berridale afford abundance of red-deer and roe-bucks: the country is well ſtored with hares, rabbits, growſe, heathcocks, plover, and all ſorts of game, comprehending a bird called *ſnow-flert*, about the ſize of a ſparrow, exceedingly fat and delicious, that comes hither in large flights about the middle of February, and takes its departure in April. The hills are covered with ſheep and black cattle; ſo numerous, that a fat cow has been ſold at market for 4s. Sterling. The rocks along the coaſts are frequented by eagles, hawks, and all manner of ſea-fowl, whoſe eggs and young are taken in vaſt quantities by the natives. The rivers and lakes abound with trout, ſalmon, and eels; and the ſea affords a very advantageous fiſhery. Divers obeliſks and ancient monuments appear in this diſtrict, and ſeveral Romiſh chapels are ſtill ſtanding. Caithneſs is well peopled with a race of hardy inhabitants, who employ themſelves chiefly in fiſhing, and breeding ſheep and black cattle: they are even remarkably induſtrious; for between Wick and Dunheath, one continued track of rugged rocks, extending 12 miles, they have forced ſeveral little harbours for their fiſhing boats, and cut artificial ſteps from the beach to the top of the rocks, where they have erected houſes, in which they cure and dry the fiſh for market.

According to Mr Pennant, this county is ſuppoſed to ſend out in ſome years about 20,000 head of black cattle, but in bad ſeaſons the farmer kills and ſalts great numbers for ſale. Great numbers of ſwine are alſo reared here. Theſe are ſhort, high-backed, long briſtled, ſharp, ſlender, and long-noſed; have long erect ears, and moſt ſavage looks. Here are neither barns nor granaries: the corn is threſhed out, and preſerved in the chaff in byks; which are ſtacks, in the ſhape of bee-hives, thatched quite round, where it will keep good for two years. Vaſt numbers of ſalmon are taken at Caſtle-hill, Dunnet, Wick, and Thurſo. A miraculous draught at this laſt place is ſtill talked of, not leſs than 2500 being taken at one tide within the memory of man; and Mr Smollet informs us, that, in the neighbourhood, above 300 good ſalmon have been taken at one draught of the net. In the month of November, great numbers of ſeals are taken in the caverns that open into the ſea, and run ſome hundreds of yards under ground. The entrance of theſe caverns is narrow, but the inſide lofty and ſpacious. The ſeal-hunters enter theſe in ſmall boats with torches, which they light as ſoon as they land, and then with loud ſhouts alarm the animals, which they kill with clubs as they attempt to paſs. This is a hazardous employment; for ſhould the wind blow hard from ſea, theſe adventurers are inevitably loſt. Sometimes a large ſpecies of ſeals, 12 feet long, have been killed on this coaſt; and it is ſaid the ſame kind are found on the rock Hiſkir, one of the weſtern iſlands. During the ſpring, great quantities of lump-fiſh reſort to this coaſt, and are the prey of the ſeals, as appears from the number of ſkins of thoſe fiſhes which at that ſeaſon float aſhore. At certain times alſo the ſeals ſeem to be viſited by a great mortality; for, at thoſe times, multitudes of them are ſeen dead in the water. Much lineſtone is found in this country, which when burnt is made into a compoſt with turf and ſea-plants. The common people are kept in great ſervitude, and moſt of their time is given to the lairds, an invincible impediment to the proſperity of the country. The women are alſo condemned to a ſhameful drudgery; it not being uncommon to ſee them trudging in droves of 60 or 70 to the fields with baſkets of dung on their backs, which are filled at pleaſure from the dunghills by their lords and maſters with their pitchforks. Caius.

The laſt private war in Scotland was occaſioned by a diſpute relating to this county. An earl of Breadalbane married an heireſs of Caithneſs: the inhabitants would not admit her title, but ſet up another perſon in oppoſition. The earl, according to the cuſtom of thoſe times, deſigned to aſſert his right by force of arms: he raiſed an army of 1500 men; but thinking the number too great, he diſmiſſed firſt one 500, and then another. With the remainder he marched to the borders of Caithneſs. Here he thought proper to add ſtratagem to force. He knew that the enemy's army waited for him on the other ſide of the promontory of Ord. He knew alſo, that whiſky was then the nectar of Caithneſs; and therefore ordered a ſhip laden with that precious liquor to paſs round, and wilfully ſtrand itſelf on the ſhore. The directions were punctually obeyed; and the crew in a ſeeming fright eſcaped in the boats to the invading army. The Caithneſs men made a prize of the ſhip; but making too free with the freight, became an eaſy prey to the earl, who attacked them during their intoxication, and gained the county, which he diſpoſed of very ſoon after his conqueſt.

CAIUS, Kaye, or *Keye*, (Dr John), the founder of Caius college in Cambridge, was born at Norwich in 1510. He was admitted very young a ſtudent in Gouville-hall in the above mentioned univerſity; and at the age of 21 tranſlated from Greek into Latin ſome pieces of divinity, and into Engliſh Eraſmus's paraphraſe on Jude, &c. From theſe his juvenile labours, it ſeems probable that he firſt intended to proſecute the ſtudy of divinity. Be that as it may, he travelled to Italy, and at Padua ſtudied phyſic under the celebrated Montanus. In that univerſity he continued ſome time, where we are told he read Greek lectures with great applauſe. In 1543, he travelled through part of Italy, Germany, and France; and returning to England commenced doctor of phyſic at Cambridge. He practiſed firſt at Shrewſbury, and afterwards at Norwich; but removing to London, in 1547 he was admitted fellow of the college of phyſicians, to which he was ſeveral years preſident. In 1557, being then phyſician to queen Mary, and in great favour, he obtained a licence to advance Gonville-hall, where he had been educated, into a college; which he endowed with ſeveral conſiderable eſtates, adding an entire new ſquare at the expence of 1834l. Of this college he accepted the maſterſhip, which he kept till within a ſhort time of his death. He was phyſician to Edward VI. queen Mary, and Queen Elizabeth. Towards the latter end of his life he retired to his own college at Cambridge; where, having reſigned the maſterſhip to Dr Legge of Norwich, he ſpent the remainder of his life as a fellow-commoner. He died in July 1573, aged 63; and was buried in the chapel of his own college. Dr Caius was a learned, active, benevolent man. In 1557, he erected a monument in St Paul's to the memory of the famous Linacre. In 1563, he obtained a grant for the college of phyſicians to take the bodies of two malefactors

Cake || Calabria.

factors annually for diſſection; and he was the inventor of the *inſignia* which diſtinguiſh the preſident from the reſt of the fellows. He wrote, 1. Annals of the college from 1555 to 1572. 2. Tranſlation of ſeveral of Galen's works. Printed at different times abroad. 3. *Hippocrates de Medicamentis*, firſt diſcovered and publiſhed by our author; alſo *De ratione victus*, Lov. 1556, 8vo. 4. *De medendi Methodo*. Baſil, 1544, Lond. 1556, 8vo. 5. Account of the ſweating ſickneſs in England. Lond. 1556. 1721. It is entitled *De ephemera Britannica*. 6. Hiſtory of the univerſity of Cambridge. Lond. 1568, 8vo. 1574, 4to. in Latin. 7. *De thermis Britannicis*. Doubtful whether ever printed. 8. Of ſome rare plants and animals. Lond. 1570. 9. *De cannibus Britannicis*, 1570, 1729. 10. *De pronunciatione Græcæ et Latinæ Linguæ*. Lond. 1574. 11. *De libris propriis*. Lond. 1570. Beſides many other works which never were printed.

CAKE, a finer ſort of bread, denominated from its flat round figure.

We meet with different compoſitions under the name of *cakes*; as *ſeed-cakes*, made of flour, butter, cream, ſugar, coriander and caraway ſeeds, mace, and other ſpices and perfumes baked in the oven; *plum-cake*, made much after the ſame manner, only with fewer ſeeds, and the addition of currants; *pan-cakes*, made of a mixture of flour, eggs, &c. fried; *cheeſe-cakes*, made of cream, eggs, and flour, with or without cheeſe-curd, butter, almonds, &c. *oat-cakes*, made of fine oaten flour, mixed with yeſt and ſometimes without, rolled thin, and laid on an iron or ſtone to bake over a ſlow fire; *ſugar-cakes*, made of fine ſugar beaten and ſearced with the fineſt flour, adding butter, roſewater, and ſpices; *roſe-cakes*, *placentæ roſaceæ*, are leaves of roſes dried and preſſed into a maſs, ſold in the ſhops for epithems.

The Hebrews had ſeveral ſorts of cakes, which they offered in the temple. They were made of the meal either of wheat or barley; they were kneaded ſometimes with oil and ſometimes with honey. Sometimes they only rubbed them over with oil when they were baked, or fried them with oil in a frying pan upon the fire. In the ceremony of Aaron's conſecration, they ſacrificed a calf and two rams, and offered unleavened bread, and cakes unleavened, tempered with oil, and wafers unleavened anointed with oil; the whole made of fine wheaten flour. Ex. xxix. 1, 2.

CAKET, a town of Aſia, in Perſia, in the province of Gurgiſtan near Mount Caucaſus. Its trade conſiſts chiefly in ſilks. E. Long. 46. 15. N. Lat. 43. 32.

CALABASH, in commerce, a light kind of veſſel formed of the ſhell of a gourd, emptied and dried, ſerving to put divers kinds of goods in, as pitch, roſin, and the like. The word is Spaniſh, *Calabaca*, which ſignifies the ſame. The Indians alſo, both of the North and South Sea, put the pearls they have fiſhed in calabaſhes, and the negroes on the coaſt of Africa do the ſame by their gold-duſt. The ſmaller calabaſhes are alſo frequently uſed by theſe people as a meaſure, by which they ſell theſe precious commodities to the Europeans. The ſame veſſels likewiſe ſerve for putting in liquors; and do the office of cups, as well as bottles, for ſoldiers, pilgrims, &c.

Calabash-Tree, in botany. See CRESCENTIA.

African Calabash-Tree. See ADANSONIA.

CALABRIA, a country of Italy, in the kingdom of Naples, divided into Calabria Ultra, and Calabria Citra, commonly called *Ulterior* and *Citerior*, or Farther and Hither Calabria. Calabria Citerior is one of the 12 provinces of the kingdom of Naples; and bounded on the ſouth by Calabria Ultra, on the north by Baſilicata, and on the weſt and eaſt by the ſea: Coſenſa is the capital. Calabria Ultra is waſhed by the Mediterranean ſea on the eaſt, ſouth, and weſt, and bounded by Calabria Citra on the north. Reggio is the capital town. Calabria.

This country has been almoſt entirely deſolated by the earthquakes of 1783. The reiterated ſhocks extended from Cape Spartivento to Amantea above the gulf of St Euſemia, and alſo affected that part of Sicily which lies oppoſite to the ſouthern extremity of Italy. Thoſe of the 5th and 7th of February, and of the 28th of March, were the moſt violent, and completed the deſtruction of every building throughout the abovementioned ſpace. Not one ſtone was left upon another ſouth of the narrow iſthmus of Squillace; and what is more diſaſtrous, a very large proportion of the inhabitants was killed by the falling of their houſes, near 40,000 lives being loſt. Some perſons were dug out alive after remaining a ſurpriſing length of time buried among the rubbiſh. Meſſina became a maſs of ruins; its beautiful palazzata was thrown in upon the town, and its quay cracked into ditches full of water. Reggio almoſt deſtroyed; Tropea greatly damaged; every other place in the province levelled to the ground.

Before and during the concuſſion the clouds gathered, and then hung immoveable and heavy over the earth. At Palmi the atmoſphere wore ſo fiery an aſpect, that many people thought part of the town was burning. It was afterwards remembered that an unuſual heat had affected the ſkin of ſeveral perſons juſt before the ſhock; the rivers aſſumed a muddy aſh-coloured tinge, and a ſulphureous ſmell was almoſt general. A frigate paſſing between Calabria and Lipari felt ſo ſevere a ſhock, that the ſteerſman was thrown from the helm, and the cannons were raiſed up on their carriages, while all around the ſea exhaled a ſtrong ſmell of brimſtone.

Stupendous alterations were occaſioned in the face of the country; rivers choaked up by the falling in of the hills, were converted into lakes, which if not ſpeedily drained by ſome future convulſion, or opened by human labour, will fill the air with peſtilential vapours, and deſtroy the remnants of population. Whole acres of ground, with houſes and trees upon them, were broken off from the plains, and waſhed many furlongs down the deep hollows which the courſe of the rivers had worn; there, to the aſtoniſhment and terror of beholders, they found a new foundation to fix upon, either in an upright or an inclining poſition. In ſhort, every ſpecies of phenomenon, incident to theſe deſtructive commotions of the earth, was to be ſeen in its utmoſt extent and variety in this ruinated country. Their Sicilian majeſties, with the utmoſt expedition, diſpatched veſſels loaded with every thing that could be thought of on the occaſion for the relief and accommodation of the diſtreſſed Calabrians; a general officer went from Naples with engineers and troops to direct the operations of the perſons employed in clearing away and rebuilding the houſes, and to defend the property.

Calade
||
Calais.

property of the ſufferers. The king ordered this officer to take all the money the royal treaſures could ſupply or borrow; for, rather than it ſhould be wanting on this preſſing call, he was determined to part with his plate, nay, the very furniture of his palace. A meſſenger ſent off from a town near Reggio on the 8th of February, travelled four days without ſhelter, and without being able to procure a morſel of bread; he ſupported nature with a piece of cheeſe which he had brought in his pocket, and the vegetables he was lucky enough to find near the road. To add to all their other ſufferings, the Calabrians found themſelves and the miſerable wreck of their fortunes expoſed to the depredations of robbers and pirates. Villains landed from boats and plundered ſeveral places, and thieves went even from Naples in ſearch of booty: In order to ſtrike a greater terror, they dreſſed themſelves like Algerines; but were diſcovered and driven off. To this accumulated diſtreſs ſucceeded a moſt inclement ſeaſon, which obſtructed every effort made to alleviate it; and almoſt daily earthquakes kept the inhabitants in continual dread, not of being deſtroyed by the fall of houſes, for none were left, but of being ſwallowed up by the ſplitting of the earth, or buried in the waves by ſome ſudden inundation.

For further particulars concerning this dreadful cataſtrophe, and the phenomena attending it, ſee EARTHQUAKE.

CALADE, in the manege, the deſcent or ſloping declivity of a riſing manege ground, being a ſmall eminence, upon which we ride down a horſe ſeveral times, putting him to a ſhort gallop, with his fore-hams in the air, to learn him to ply or bend his haunches, and form his ſtop upon the aids of the calves of the legs, the ſtay of the bridle, and the cavefon ſeaſonably given.

CALAGORINA, or CALAGURIS, diſtinguiſhed by the ſurname *Naſica* (anc. geog.), a city of the Vaſcones in the Hither Spain; now *Calaborra*.

CALAHORRA, an epiſcopal town of Spain, in Old Caſtile, ſeated in a fertile ſoil, on the ſide of a hill which extends to the banks of the river Ebro. W. Long. 2. 7. N. Lat. 42. 12.

CALAIS, a ſtrong town of France, in Lower Picardy, with a citadel and a fortified harbour. It is built in the form of a triangle, one ſide of which is towards the ſea. The citadel is as large as the town, and has but one entrance. It is a trading place, with handſome ſtreets, and ſeveral churches and monaſteries; the number of inhabitants is reckoned to be 4000.

Calais was taken by Edward III. in 1347. Hither he marched his victorious army from Creſcy, and inveſted the town on the 8th of September. But finding that it could not be taken by force without the deſtruction of great multitudes of his men, he turned the ſiege into a blockade; and having made ſtrong entrenchments to ſecure his army from the enemy, huts to protect them from the inclemency of the weather, and ſtationed a fleet before the harbour to prevent the introduction of proviſions, he reſolved to wait with patience till the place fell into his hands by famine. The beſieged, diſcovering his intention, turned ſeventeen hundred women, children, and old people, out of the town, to ſave their proviſions; and Edward had the goodneſs, after entertaining them with a dinner, and giving them twopence a-piece, to ſuffer them to paſs. The garriſon and inhabitants of Calais having at length conſumed all their proviſions, and even eaten all the horſes, dogs, cats, and vermin, in the place, the governor John de Vienne appeared upon the walls, and offered to capitulate. Edward, greatly incenſed at their obſtinate reſiſtance, which had detained him eleven months under their walls, at an immenſe expence both of men and money, ſent Sir Walter Manny, an illuſtrious knight, to acquaint the governor, that he would grant them no terms; but that they muſt ſurrender at diſcretion. At length, however, at the ſpirited remonſtrances of the governor, and the perſuaſions of Sir Walter Manny, Edward conſented to grant their lives to all the garriſon and inhabitants, except ſix of the principal burgeſſes, who ſhould deliver to him the keys of the city, with ropes about their necks. When theſe terms were made known to the people of Calais, they were plunged into the deepeſt diſtreſs; and after all the miſeries they had ſuffered, they could not think without horror of giving up ſix of their fellow-citizens to certain death. In this extremity, when the whole people were drowned in tears, and uncertain what to do, Euſtace de Pierre, one of the richeſt merchants in the place, ſtepped forth, and voluntarily offered himſelf to be one of theſe ſix devoted victims. His noble example was ſoon imitated by other five of the moſt wealthy citizens. Theſe true patriots, barefooted and bareheaded, with ropes about their necks, were attended to the gates by the whole inhabitants, with tears, bleſſings, and prayers, for their ſafety. When they were brought into Edward's preſence, they laid the keys of the city at his feet, and falling on their knees implored his mercy in ſuch moving ſtrains, that all the noble ſpectators melted into tears. The king's reſentment was ſo ſtrong for the many toils and loſſes he had ſuffered in this tedious ſiege, that he was in ſome danger of forgetting his uſual humanity; when the queen, falling upon her knees before him, earneſtly begged and obtained their lives. This great and good princeſs conducted theſe virtuous citizens, whoſe lives ſhe had ſaved, to her own apartment, entertained them honourably, and diſmiſſed them with preſents. Edward took poſſeſſion of Calais Auguſt 4th; and in order to ſecure a conqueſt of ſo great importance, and which had coſt him ſo dear, he found it neceſſary to turn out all the ancient inhabitants, who had diſcovered ſo ſtrong an attachment to their native prince, and to people it with Engliſh. Calais

Calais remained in ſubjection to England till the reign of queen Mary, when it was retaken by the duke of Guiſe. This general began the enterpriſe by ordering the privateers of Normandy and Bretagne to cruize in the channel, more eſpecially in the very ſtraits of Calais: he then detached the duke of Nevers, with a conſiderable army, towards the country of Luxemburgh; a motion which drew the attention of the Spaniards that way: when all things were ready, he procured an application from the people of Boulogne, for a body of troops to ſecure them againſt the incurſions of the Spaniards; he ſent a ſtrong detachment at their requeſt, which was followed by another, under colour of ſupporting them, then repaired thither in perſon, ſecure that his officers would follow his inſtructions; and thus, on the firſt day of the new year, 1557, Calais was inveſted. He immediately attacked

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Calais. tacked fort St Agatha, which the garriſon quitted, and retired into the fort of Nieulai, which, together with the Riſbank, the beſiegers attacked at the ſame time, granted good terms to the officer who commanded in the former, but obliged the garriſon of the latter to ſurrender priſoners of war. By theſe means he opened a communication with the ſea; and having received from on board the ſhips an immenſe quantity of hurdles, his infantry, by the help of them, paſſed the moraſſes that lie round the town. He then made a falſe attack at the water-gate, which drew the attention of the garriſon, who fatigued themſelves exceedingly in making entrenchments behind the breach; but when they had finiſhed their work, he began to fire upon the caſtle, where the walls were very old, and had been neglected on account of the breadth of the ditch, which was alſo very deep when the tide was in; but a great breach being made, the duke cauſed it to be attacked in the night, and during the ebb the ſoldiers paſſing almoſt up to the ſhoulders. The place was eaſily carried, though the governor made three vigorous attacks before the break of day, in order to diſlodge them; but the French, though they loſt a conſiderable number of men, kept their poſts. The governor then ſaw that it was impracticable to defend the place any longer, and therefore made the beſt terms for himſelf that he could obtain, which, however, were not very good: and thus in eight days the duke of Guiſe recovered a fortreſs which coſt the victorious Edward III. a whole year's ſiege, and which had been now 210 years in the poſſeſſion of the Engliſh, without ſo much as a ſingle attempt to retake it. There are very different accounts given of this matter: Some Engliſh hiſtorians ſay, that king Philip penetrated the deſign of the French upon this fortreſs, gave notice of it in England, and offered to take the defence of it upon himſelf; but that this, out of jealouſy, was refuſed, it being believed to be only an artifice to get a place of ſuch conſequence into his own hands. The truth of the matter ſeems to be this: The ſtrength of Calais conſiſted in its ſituation and outworks, which required a very numerous garriſon; but this being attended with a very large expence, the beſt part of the troops had been ſent to join Philip's army, ſo that the governor had not above 500 men, and there were not more than 250 of the townſmen able to bear arms. As to ammunition, artillery, and proviſions, the French found there abundance, but with ſo ſlender a garriſon, that it was impoſſible to make a better defence; and therefore, when the lord Wentworth, who was governor, and whom the French call lord Dumfort, was tried by his peers for the loſs of this place, he was acquitted. The duke obliged all the Engliſh inhabitants to quit Calais; and beſtowed the government of it upon des Termes, who was ſoon after made a marſhal of France.

The fortifications of Calais are good; but its greateſt ſtrength is its ſituation among the marſhes, which may be overflowed at the approach of an enemy. The harbour is not ſo good as formerly, nor will it admit veſſels of any great burden. In times of peace, there are packet-boats going backward and forward twice a week from Dover to Calais, which is 21 miles diſtant. E. Long. 2. 6. N. Lat. 50. 58.

Calais and Zetes, in fabulous hiſtory, ſons of Boreas and Orythia, to whom the poets attributed wings: they went on the voyage of Colchis with the Argonauts, delivered Phineus from the harpies, and were ſlain by Hercules.

Calamanco || Calamine.

CALAMANCO, a ſort of woollen ſtuff manufactured in England and Brabant. It has a fine gloſs; and is checkered in the warp, whence the checks appear only on the right ſide. Some calamancos are quite plain, others have broad ſtripes adorned with flowers, ſome with plain broad ſtripes, ſome with narrow ſtripes, and others watered.

CALAMARIÆ, in botany, an order of plants in the *Fragmenta methodi naturalis* of Linnæus; in which he has the following genera, viz. bobartia, ſcirpus, cyperus, eriophorum, carex, ſchænus, flagellaria, juncus. See Botany.

CALAMATA, a conſiderable town of Turky in Europe, in the Morea, and province of Belvedera. It was taken by the Venetians in 1685; but the Turks retook it afterwards with all the Morea. It ſtands on the river Spinarza, eight miles from the ſea. E. Long. 22. 15. N. Lat. 37. 8.

CALAMINE, Calamy, *Lapis Calaminaris*, or *Cadmia Foſſilis*, a ſort of ſtone or mineral, containing zinc, iron, and ſometimes other ſubſtances. It is conſiderably heavy, and the more ſo the better; moderately hard and brittle, or of a conſiſtence betwixt ſtone and earth: the colour is ſometimes whitiſh or grey; ſometimes yellowiſh, or of a deep yellow; ſometimes red; ſometimes brown or blackiſh. It is plentiful in ſeveral places of Europe, as Hungary, Tranſylvania, Poland, Spain, Sweden, Bohemia, Saxony, Goſlar, France, and England, particularly in Derbyſhire, Glouceſterſhire, Nottinghamſhire, and Somerſetſhire, as alſo in Wales. The calamine of England, however, is by the beſt judges allowed to be ſuperior in quality to that of moſt other countries. It ſeldom lies very deep, being chiefly found in clayey grounds near the ſurface. In ſome places it is mixed with lead-ores. It is the only true ore of zinc, and is uſed as an ingredient in making of braſs.—Newmann relates various experiments with this mineral, the only reſult of which was to ſhow that it contained iron as well as zinc. The moſt remarkable are the following. A ſaturated ſolution of calamine in the marine acid, concentrated by evaporating part of the liquor, exhibits in the cold an appearance of fine cryſtals, which on the application of warmth diſſolve and diſappear. A little of this concentrated ſolution tinges a large quantity of water of a bright yellow colour; and at the ſame time depoſits by degrees a fine, ſpongy, browniſh precipitate. Glue diſſolved in this ſolution, and afterwards inſpiſſated, forms an extremely ſlippery tenacious maſs, which does not become dry, and, were it not too expenſive, might be of uſe for entangling flies, caterpillars, &c. Sulphur boiled in the ſolution ſeems to acquire ſome degree of tranſparency.—This mineral is an article in the materia medica; but, before it comes to the ſhops, is uſually roaſted or calcined, in order to ſeparate ſome arſenical or ſulphureous matter which in its crude ſtate it is ſuppoſed to contain, and to render it more eaſily reducible into a fine powder. In this ſtate it is employed in collyria againſt defluxions of thin acrid humours upon the eyes, for drying up moiſt running ulcers, and healing excoriations. It is the baſis of an officinal epulotic Cerate.

Calamint ‖ Ca'amy

Though the lapis calaminaris is the only native ore of zinc, there is another ſubſtance from which that ſemi-metal is alſo obtained. This is called *cadmia fornacum*, or *cadmia of the furnaces*, to diſtinguiſh it from the other. This is a matter ſublimed when ores containing zinc, like thoſe of Rammelſberg, are ſmelted. This cadmia conſiſts of the flowers of the ſemi-metal ſublimed during the fuſion, and adhering to the inner ſurfaces of the walls of furnaces, where they ſuffer a ſemi-fuſion, and therefore acquire ſome ſolidity. So great a quantity of theſe are collected, that they form very thick incruſtations, which muſt be frequently taken off. The name of *cadmia of the furnaces* has alſo been given to all the ſoots and metallic ſublimates formed by ſmelting in the great, although there is certainly a difference in theſe matters.

CALAMINT, in botany. See MELISSA, and MENTHA.

CALAMUS, in botany; A genus of the monogynia order, belonging to the hexandria claſs of plants; and in the natural method ranking under the 5th order, *Tripetaloideæ*. The calyx is hexaphyllous, there is no corolla, the fruit is a dry monoſpermous berry, imbricated backwards. There is but one ſpecies, the rotang. The ſtem is without branches, has a crown at top, and is every where beſet with ſtraight ſpines. This is the true Indian cane, which is not viſible on the outſide; but the bark being taken off diſcovers the ſmooth ſtick, which has no marks of ſpine on the bark, and is exactly like thoſe which the Dutch ſell to us; keeping this matter very ſecret, leſt travellers going by ſhould take as many canes out of the woods as they pleaſe. Sumatra is ſaid to be the place where moſt of theſe ſticks grow. Such are to be choſen as are of proper growth between two joints, ſuitable to the faſhionable length of canes as they are then worn: but ſuch are ſcarce.—The calamus rotang is one of ſeveral plants from which the drug called Dragon's-blood is obtained.

CALAMUS, in the ancient poets, denotes a ſimple kind of pipe or fiſtula, the muſical inſtrument of the ſhepherds and herdſmen; uſually made either of an oateo ſtalk or a reed.

CALAMUS *Aromaticus*, or *Sweet-ſcented Flag*, in the materia medica, a ſpecies of flag called *acorus* by Linnæus. See ACORUS.

CALAMUS *Scriptorius*, in antiquity, a reed or ruſh to write with. The ancients made uſe of ſtyles to write on tables covered with wax; and of reed, or ruſh, to write on parchment, or Egyptian paper.

CALAMY (Edmund), an eminent Preſbyterian divine, born at London in the year 1600, and educated at Pembroke-hall, Cambridge, where his attachment to the Armeoian party excluded him from a fellowſhip. Dr Felton biſhop of Ely, however, made him his chaplain; and, in 1639, he was choſen miniſter of St Mary Aldermary, in the city of London. Upon the opening of the long parliament, he diſtinguiſhed himſelf in defence of the Preſbyterian cauſe; and had a principal hand in writing the famous *Smectymnus*, which, himſelf ſays, gave the firſt deadly blow to epiſcopacy. The authors of this tract were five, the initials of whoſe names formed the name under which it was publiſhed; viz. Stephen Marſhal, Edmund Calamy, Thomas Young, Matthew Newcomen, and William Sparſtow. He was after that an active member in the aſſembly of divines, was a ſtrenuous oppoſer of ſectaries, and uſed his utmoſt endeavours to prevent thoſe violences committed after the king was brought from the iſle of Wight. In Cromwell's time he lived privately, but was aſſiduous in promoting the king's return; for which he was afterwards offered a biſhopric, but refuſed it. He was ejected for nonconformity in 1662; and died of grief at the ſight of the great fire of London. Calamy.

CALAMY (Edmund), grandſon to the preceding (by his eldeſt ſon Mr Edmund Calamy, who was ejected out of the living of Moxton in Eſſex on St Bartholomew's day 1662), was born in London, April 5th 1671. After having learned the languages, and gone through a courſe of natural philoſophy and logic at a private academy in England, he ſtudied philoſophy and civil law at the univerſity of Utrecht, and attended the lectures of the learned Grævius. Whilſt he reſided here, an offer of a profeſſor's chair in the univerſity of Edinburgh was made him by Mr Carſtairs, principal of that univerſity, ſent over on purpoſe to find a perſon properly qualified for ſuch an office. This he declined; and returned to England in 1691, bringing with him letters from Grævius to Dr Pocock canon of Chriſtchurch and regius profeſſor of Hebrew, and to Dr Bernard Savilian profeſſor of aſtronomy, who obtained leave for him to proſecute his ſtudies in the Bodleian library. Having reſolved to make divinity his principal ſtudy, he entered into an examination of the controverſy between the conformiſts and nonconformiſts; which determined him to join the latter: and coming to London in 1692, he was unanimouſly choſen aſſiſtant to Mr Matthew Sylveſter at Blackfriars; and in 1694, he was ordained at Mr Anneſly's meeting-houſe in Little St-Helens, and ſoon after was invited to become aſſiſtant to Mr Daniel Williams in Hand-Alley. In 1702, he was choſen to be one of the lecturers in Salter's-hall; and, in 1703, ſucceeded Mr Vincent Alſop as paſtor of a great congregation in Weſtminſter. He drew up the table of contents to Mr Baxter's hiſtory of his life and times, which was ſent to the preſs in 1696; made ſome remarks on the work itſelf, and added to it an index; and, reflecting on the uſefulneſs of the book, he ſaw the expediency of continuing it, for Mr Baxter's hiſtory came no lower than the year 1684. Accordingly he compoſed an abridgement of it, with an account of many other miniſters who were ejected after the reſtoration of Charles II.; their apology, containing the grounds of their nonconformity and practice as to ſtated and occaſional communion with the church of England; and a continuation of their hiſtory till the year 1691. This work was publiſhed in 1702. He afterwards publiſhed a moderate defence of nonconformity, in three tracts, in anſwer to ſome tracts of Dr Hoadley. In 1709, Mr Calamy made a tour to Scotland; and had the degree of doctor of divinity conferred on him by the univerſities of Edinburgh, Aberdeen, and Glaſgow. In 1713, he publiſhed a ſecond edition of his Abridgement of Mr Baxter's hiſtory of his life and times; in which, among other additions, there is a continuation of the hiſtory through king William's reign, and queen Anne's, down to the paſſing of the occaſional bill; and in the cloſe is ſubjoined the reformed liturgy, which was drawn

Calandre, Calas.

drawn up and preſented to the biſhops in 1661, "that the world may judge (he ſays in his preface) how fairly the ejected miniſters have been often repreſented as irreconcileable enemies to all liturgies." In 1718, he wrote a vindication of his grandfather, and ſeveral other perſons, againſt certain reflections caſt upon them by Mr Archdeacon Echard in his Hiſtory of England; and in 1728 appeared his Continuation of the account of the miniſters, lecturers, maſters, and fellows of colleges, and ſchoolmaſters, who were ejected, after the reſtoration in 1660, by or before the act of uniformity. He died June 3d 1732, greatly regretted not only by the diſſenters, but alſo by the moderate members of the eſtabliſhed church, both clergy and laity, with many of whom he lived in great intimacy. Beſides the pieces already mentioned, he publiſhed a great many ſermons on ſeveral ſubjects and occaſions. He was twice married, and had 13 children.

CALANDRE, a name given by the French writers to an inſect that does vaſt miſchief in granaries. It is properly of the ſcarab or beetle claſs; it has two antennæ or horns formed of a great number of round joints, and covered with a ſoft and ſhort down; from the anterior part of the head there is thruſt out a trunk, which is ſo formed at the end, that the creature eaſily makes way with it through the coat or ſkin that covers the grain, and gets at the meal or farina on which it feeds; the inſide of the grains is alſo the place where the female depoſits her eggs, that the young progeny may be born with proviſion about them. When the female has pierced a grain of corn for this purpoſe, ſhe depoſits in it one egg, or at the utmoſt two, but ſhe moſt frequently lays them ſingle: theſe eggs hatch into ſmall worms, which are uſually found with their bodies rolled up in a ſpiral form, and after eating till they arrive at their full growth, they are changed into chryſales, and from theſe in about a fortnight comes out the perfect calandre. The female lays a conſiderable number of eggs; and the increaſe of theſe creatures would be very great: but nature has ſo ordered it, that while in the egg ſtate, and even while in that of the worm, they are ſubject to be eaten by mites; theſe little vermin are always very plentiful in granaries, and they deſtroy the far greater number of theſe larger animals.

CALAS (John), the name of a moſt unfortunate Proteſtant merchant at Thouloufe, inhumanly butchered under forms of law cruelly proſtituted to ſhelter the ſanguinary dictates of ignorant Popiſh zeal. He had lived 40 years at Thouloufe. His wife was an Engliſh woman of French extraction: and they had five ſons; one of whom, Lewis, had turned Catholic through the perſuaſions of a Catholic maid who had lived 30 years in the family. In October 1761, the family conſiſted of Calas, his wife, Mark-Anthony their ſon, Peter their ſecond ſon, and this maid. Anthony was educated for the bar; but being of a melancholy turn of mind, was continually dwelling on paſſages from authors on the ſubject of ſuicide, and one night in that month hanged himſelf on a bar laid acroſs two folding doors in their ſhop. The crowd collected by the confuſion of the family on ſo ſhocking a diſcovery, took it into their heads that he had been ſtrangled by the family to prevent his changing his religion, and that this was a common practice among proteſtants. The officers of juſtice adopted the popular tale, and were ſupplied by the mob with what they accepted as evidences of the fact. The fraternity of white penitents got the body, buried it with great ceremony, and performed a ſolemn ſervice for him as a martyr; the Franciſcans did the ſame: and after theſe formalities no one doubted the guilt of the devoted heretical family. They were all condemned to the torture, to bring them to confeſſion: they appealed to the parliament; who, as weak and as wicked as the ſubordinate magiſtrates, ſentenced the father to the torture ordinary and extraordinary, to be broken alive upon the wheel, and then to be burned to aſhes. A diabolical decree! which, to the ſhame of humanity, was actually carried into execution. Peter Calas, the other ſon, was baniſhed for life; and the reſt were acquitted. The diſtracted widow found ſome friends, and among the reſt M. Voltaire, who laid her caſe before the council of ſtate at Verſailles, and the parliament of Thouloufe were ordered to tranſmit the proceedings. Theſe the king and council unanimouſly agreed to annul; the capitoul, or chief magiſtrate of Thouloufe, was degraded and fined; old Calas was declared to have been innocent; and every imputation of guilt was removed from the family, who alſo received from the king and clergy conſiderable gratuities.

Calaſh, Calaſio.

CALASH, or Caleſh, a ſmall light kind of chariot or chair, with very low wheels, uſed chiefly for taking the air in parks and gardens. The calaſh is for the moſt part richly decorated, and open on all ſides for the conveniency of the air and proſpect, or at moſt incloſed with light mantlets of wax-cloth to be opened and ſhut at pleaſure. In the Philoſophical Tranſactions we have a deſcription of a new ſort of calaſh going on two wheels, not hung on traces, yet eaſier than the common coaches, over which it has this further advantage, that whereas a common coach will overturn if one wheel go on a ſurface a foot and an half higher than the other, this will admit of a difference of 3½ feet without danger of overturning. Add, that it would turn over and over; that is, after the ſpokes being ſo turned as that they are parallel to the horizon, and one wheel flat over the head of him that rides in it, and the other flat under him, it will turn once more, by which the wheels are placed *in ſtatu quo*, without any diſorder to the horſe or rider.

CALASIO (Marius), a Franciſcan, and profeſſor of the Hebrew language at Rome, of whom there is very little to be ſaid, but that he publiſhed there, in the year 1621, a Concordance of the Bible, which conſiſted of four great volumes in folio. This work has been highly approved and commended both by Proteſtants and Papiſts, and is indeed a moſt admirable work. For beſides the Hebrew words in the Bible, which are in the body of the book, with the Latin verſion over againſt them; there are, in the margin, the differences between the ſeptuagint verſion and the vulgate; ſo that at one view may be ſeen wherein the three Bibles agree, and wherein they differ. Moreover, at the beginning of every article there is a kind of dictionary, which gives the ſignification of each Hebrew word; affords an opportunity of comparing it with other oriental languages, viz. with the Syriac, Arabic, and Chaldee; and is extremely uſeful

Calafiris ‖ Calauria.

for determining more exactly the true meaning of the Hebrew words.

CALASIRIS, in antiquity, a linen tunic fringed at the bottom, and worn by the Egyptians under a white woollen garment: but this laſt they were obliged to pull off when they entered the temples, being only allowed to appear there in linen garments.

CALATAJUD, a large and handſome town of Spain, in the kingdom of Arragon; ſituated at the confluence of the rivers Xalon and Xiloca, at the end of a very fertile valley, with a good caſtle on a rock. W. Long. 2. 9. N. Lat. 41. 22.

CALATHUS, in antiquity, a kind of hand-baſket made of light wood or ruſhes; uſed by the women ſometimes to gather flowers, but chiefly, after the example of Minerva, to put their work in. The figure of the calathus, as repreſented on ancient monuments, is narrow at the bottom, and wideniog upwards like that of a top. Pliny compares it to that of a lily. The Calathus or work-baſket of Minerva is no leſs celebrated among the poets than her diſtaff.

Calathus was alſo the name of a cup for wine, uſed in ſacrifices.

CALATOR, in antiquity, a cryer, or officer appointed to publiſh ſomething aloud, or call the people together. The word is formed from καλεω, *voco*, *I call*. Such miniſters the pontifices had, whom they uſed to ſend before them when they went to ſacrifice on *ferie* or holidays, to adverti'e the people to leave off work. The magiſtrates alſo uſed *calatores*, to call the people to the comitia, both *curiata* and *centuriata*. The officers in the army alſo had *calatores*; as had likewiſe many private families, to invite their gueſts to entertainments.

CALATRAVA, a city of New Caſtile, in Spain, ſituated on the river Guadiana, 45 miles ſouth of Toledo. W. Long. 4. 20. N. Lat. 39. 0.

Knights of Calatrava, a military order in Spain, inſtituted under Sancho III. king of Caſtile, upon the following occaſion. When that prince took the ſtrong fort of Calatrava from the moors of Andaluſia, he gave it to the templars, who, wanting courage to defend it, returned it him again. Then Don Reymond, of the order of the Ciſtercians, accompanied with ſeveral perſons of quality, made an offer to defend the place, which the king thereupon delivered up to them, and inſtituted that order. It increaſed ſo much under the reign of Alphonſus, that the knights deſired they might have a grand maſter, which was granted. Ferdinand and Iſabella afterwards, with the conſent of pope Innocent VIII. re-united the grand-maſterſhip of Calatrava to the Spaniſh crown; ſo that the kings of Spain are now become perpetual adminiſtrators thereof.

The knights of Calatrava bear a croſs gules, flowerdeliſed with green, &c. Their rule and habit was originally that of the Ciſtercians.

CALAURIA (anc. geog.), an iſland of Greece in the Saronic bay, overagainſt the port of Troezen, at the diſtance of 40 ſtadia. Hither Demoſthenes went twice into baniſhment; and here he died. Neptune was ſaid to have accepted this iſland from Apollo in exchange for Delos. The city ſtood on a high ridge nearly in the middle of the iſland, commanding an extenſive view of the gulf and its coaſts. There was his holy temple. The prieſteſs was a virgin, who was diſmiſſed when marriageable. Seven of the cities near the iſland held a congreſs at it, and ſacrificed jointly to the deity. Athens, Ægina, and Epidaurus were of this number, with Nauplia, for which place Argos contributed. The Macedonians, when they had reduced Greece, were afraid to violate the ſanctuary, by forcing from it the fugitives, his ſuppliants. Antipater commanded his general to bring away the orators, who had offended him, alive; but Demoſthenes could not be prevailed on to ſurrender. His monument remained in the ſecond century, within the incloſure of the temple. The city of Calauria has been long abandoned. Traces of buildings, and of ancient walls, appear nearly level with the ground; and ſome ſtones, in their places, each with a ſeat and back, forming a little circle, once perhaps a bath. The temple, which was of the Doric order, and not large, as may be inferred from the fragments, is reduced to an inconſiderable heap of ruins. The iſland is now called *Poro*. It ſtretches along before the coaſt of the Morea in a lower ridge, and is ſeparated from it by a canal only four ſtadia or half a mile wide. This, which is called Poro or the Ferry, in ſtill weather may be paſſed on foot, as the water is not deep. It has given its name to the iſland; and alſo to the town, which conſiſts of about 200 houſes, mean and low, with flat roofs; riſing on the ſlope of a bare diſagreeable rock.

Calcada ‖ Calcarium.

CALCADA, or *St Dimingo Calcada*, a town of Spain, ſituated in W. Long. 3. 5. N. Lat. 42. 36.

CALCAR, a very ſtrong town of Germany, in the circle of Weſtphalia, and duchy of Cleves. It belongs to the king of Pruſſia, and is ſeated near the Rhine, in E. Long. 5. 41. N. Lat. 51. 45.

Calcar, in glaſs-making, the name of a ſmall oven, or reverberatory furnace, in which the firſt calcination of ſand and ſalt of potaſhes is made for the turning them into what is called *frit*. This furnace is made in the faſhion of an oven, ten feet long, ſeven broad in the wideſt part, and two feet deep. On one ſide of it is a trench ſix inches ſquare, the upper part of which is level with the calcar, and ſeparated only from it at the mouth by bricks nine inches wide. Into this trench they put ſea-coal, the flame of which is carried into every part of the furnace, and is reverberated from the roof upon the frit, over the ſurface of which the ſmoke flies very black, and goes out at the mouth of the calcar; the coals burn on iron-grates, and the aſhes fall through.

Calcar (John de), a celebrated painter, was the diſciple of Titian, and perfected himſelf by ſtudying Raphael. Among other pieces he drew a nativity, repreſenting the angels around the infant Chriſt; and ſo ordered the diſpoſition of his picture, that the light all proceeds from the child. He died at Naples, in 1546, in the flower of his age. It was he who deſigned the anatomical figures of Veſal, and the portraits of the painters of Veſari.

CALCAREOUS, ſomething that partakes of the nature and qualities of calx, or lime. We ſay, a *calcareous* earth, *calcareous* ſtone. See *Chemistry-Index*.

CALCEARIUM, in antiquity, a donative or largeſs beſtowed on Roman ſoldiers for buying ſhoes. In monaſteries, *calcearium* denoted the daily ſervice of cleaniog the ſhoes of the religious.

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Calceolaria Calculus.

CALCEOLARIA, in botany; a genus of the monogynia order, belonging to the diandria claſs of plants. The corolla is ringent and inflated; the capſule has two cells, and two valves; the calyx four parted and equal.

CALCHAS, in fabulous hiſtory, a famous diviner, followed the Greek army to Troy. He foretold that the ſiege would laſt ten years; and that the fleet, which was detained in the port of Aulis by contrary winds, would not ſail till Agamemnon's daughter had been ſacrificed to Diana. After the taking of Troy, he retired to Colophon; where, it is ſaid, he died of grief, becauſe he could not divine what another of his profeſſion, called *Moplus*, had diſcovered.

CALCINATION, in chemiſtry, the reducing of ſubſtances to a calx by fire. See *Chemistry-Index*.

CALCINATO, a town of Italy, in the duchy of Mantua, remarkable for a victory gained over the Imperialiſts by the French in 1706. E. Long. 9. 55. N. Lat. 45. 25.

CALCULARY *of a Pear*, a congeries of little ſtrong knots diſperſed through the whole parenchyma of the fruit. The calculary is moſt obſerved in rough-taſted or choak-pears. The knots lie more continuous and compact together towards the pear where they ſurround the ACETARY. About the ſtalk they ſtand more diſtant; but towards the cork, or ſtool of the flower, they ſtill grow cloſer, and there at laſt gather into the firmneſs of a plumb-ſtone. The calculary is no vital or eſſential part of the fruit; the ſeveral knots whereof it conſiſts being only ſo many concretions or precipitations out of the ſap, as we ſee in urines, wines, and other liquors.

CALCULATION, the act of computing ſeveral ſums, by adding, ſubtracting, multiplying, or dividing. See ARITHMETIC.

CALCULATION is more particularly uſed to ſignify the computations in aſtronomy and geometry, for making tables of logarithms, ephemerides, finding the time of eclipſes, &c. See ASTRONOMY, GEOMETRY, and LOGARITHMS.

CALCULUS, primarily denotes a little ſtone or pebble, anciently uſed in making computations, taking of ſuffrages, playing at tables, and the like. In after-times, pieces of ivory, and counters ſtruck of ſilver, gold, and other matters, were uſed in lieu thereof, but ſtill retaining the ancient names. Computiſts were by the lawyers called *calculones*, when they were either ſlaves or newly freed men; thoſe of a better condition were named *calculatores* or *numerarii*: ordinarily there was one of theſe in each family of diſtinction. The Roman judges anciently gave their opinions by calculi, which were white for abſolution, and black for condemnation. Hence *calculus albus*, in ancient writers, denotes a favourable vote, either in a perſon to be abſolved and acquitted of a charge, or elected to ſome dignity or poſt; as *calculus niger* did the contrary. This uſage is ſaid to have been borrowed from the Thracians, who marked their happy or proſperous days by *white*, and their unhappy by *black*, pebbles, put each night into an urn.

Beſides the diverſity of colour, there were ſome calculi alſo which had figures or characters engraven on them, as thoſe which were in uſe in taking the ſuffrages both in the ſenate and at aſſemblies of the people. Theſe calculi were made of thin wood, poliſhed and covered over with wax. Their form is ſtill ſeen in ſome medals of the Caſſian family; and the manner of caſting them into the urns, in the medals of the Licinian family. The letters marked upon theſe calculi were U. R. for *uti rogas*, and A. for *antiquo*; the firſt of which expreſſed an approbation of the law, the latter a rejection of it. Afterwards the judges who ſat in capital cauſes uſed calculi marked with the letter A. for *abſolvo*; C. for *condemno*; and N. L. for *non liquet*, ſignifying that a more full information was required. Calculus

Calculus is alſo uſed in ancient grammatic writers for a kind of weight equal to two grains of cicer. Some make it equivalent to the ſiliqua, which is equal to three grains of barley. Two calculi made the ceratium.

Calculus Differentialis is a method of differencing quantities, or of finding an infinitely ſmall quantity, which, being taken infinite times, ſhall be equal to a given quantity: or, it is the arithmetic of the infinitely ſmall differences of variable quantities.

The foundation of this calculus is an infinitely ſmall quantity, or an infinitеſimal, which is a portion of a quantity incomparable to that quantity, or that is leſs than any aſſignable one, and therefore accounted as nothing; the error accruing by omitting it being leſs than any aſſignable one. Hence two quantities, only differing by an infinitеſimal, are reputed equal. Thus, in Aſtronomy, the diameter of the earth is an infinitеſimal, in reſpect of the diſtance of the fixed ſtars; and the ſame holds in abſtract quantities. The term, infinitеſimal, therefore, is merely reſpective, and involves a relation to another quantity; and does not denote any real ens, or being. Now infinitеſimals are called *differentials*, or *differential quantities*, when they are conſidered as the differences of two quantities. Sir Iſaac Newton calls them *moments*; conſideriog them as the momentary increments of quantities, v. g. of a line generated by the flux of a point, or of a ſurface by the flux of a line. The differential calculus, therefore, and the doctrine of fluxions, are the ſame thing under different names; the former given by M. Leibnitz, and the latter by Sir Iſaac Newton: each of whom lay claim to the diſcovery. There is, indeed, a difference in the manner of expreſſing the quantities reſulting from the different views wherein the two authors conſider the infinitеſimals; the one as moments, the other as differences: Leibnitz, and moſt foreigners, expreſs the differentials of quantities by the ſame letters as variable ones, only prefixing the letter *d*: thus the differential of x is called dx; and that of y, dy: now dx is a poſitive quantity, if x continually increaſe; negative, if it decreaſe. The Engliſh, with Sir Iſaac Newton, inſtead of dx write $\dot{x}$ (with a dot over it;) for dy, $\dot{y}$, &c. which foreigners object againſt, on account of that confuſion of points, which they imagine ariſes when differentials are again differenced; beſides, that the printers are more apt to overlook a point than a letter. Stable quantities being always expreſſed by the firſt letters of the alphabet $da=o$, $db=o$, $dc=o$; wherefore $d(x+y-a) = dx+dy$, and $d(x-y+a)$ $dx-dy$. So that the differencing of quantities is eaſily performed, by the addition or ſubtraction of their compounds.

To difference quantities that multiply each other; the rule is, firſt, multiply the differential of one factor into the other factor, the ſum of the two factors is the differential ſought: thus, the quantities being x y, the dif-

Calculus. differential will be $x\,dy+y\,dx$, i. e. $d(xy)=x\,dy+y\,dx$. Secondly, if there be three quantities mutually multiplying each other, the factum of the two muſt then be multiplied into the differential of the third: thus ſuppoſe $v\,x\,y$, let $v\,x=t$, then $v\,x\,y=t\,y$; conſequently $d(v\,x\,y)=t\,dy+y\,dt$: but $dt=v\,dx+x\,dv$. Theſe values, therefore, being ſubſtituted in the antecedent differential, $t\,dy+y\,dt$, the reſult is, $d(v\,x\,y)=v\,x\,dy+v\,y\,dx+x\,y\,dv$. Hence it is eaſy to apprehend how to proceed, where the quantities are more than three. If one variable quantity increaſe, while the other y decreaſes, it is evident $y\,dx-x\,dy$ will be the differential of $x\,y$.

To difference quantities that mutually divide each other; the rule is, firſt, multiply the differential of the diviſor into the dividend; and, on the contrary, the differential of the dividend into the diviſor; ſubtract the laſt product from the firſt, and divide the remainder by the ſquare of the diviſor; the quotient is the differential of the quantities mutually dividing each other. See Fluxions.

Calculus' Exponentialis, is a method of differencing exponential quantities, or of finding and ſumming up the differentials or moments of exponential quantities; or at leaſt bringing them to geometrical conſtructions.

By exponential quantity, is here underſtood a power, whoſe exponent is variable; v. g. x^x a^x. x^y. where the exponent x does not denote the ſame in all the points of a curve, but in ſome ſtands for 2, in others for 3, in others for 5, &c.

To difference an exponential quantity; there is nothing required but to reduce the exponential quantities to logarithmic ones; which done, the differencing is managed as in logarithmic quantities.—Thus, ſuppoſe the differential of the exponential quantity x^y required, let

$$x^y=z$$

Then will $y\,l\,x=l\,z$

$$l\,x\,dy+\frac{y\,dx}{x}=\frac{dz}{z}$$

$$z\,l\,x\,dy+\frac{z\,y\,dx}{x}=dz$$

That is, $x^y\,l\,x\,dy+x^{y-1}\,dx=dz$.

Calculus Integralis, or Summatorius, is a method of integrating, or ſumming up moments, or differential quantities; i. e. from a differential quantity given, to find the quantity from whoſe differencing the given differential reſults.

The integral calculus, therefore, is the inverſe of the differential one: whence the Engliſh, who uſually call the differential method *fluxions*, give this *calculus*, which aſcends from the fluxions, to the flowing or variable quantities: or, as foreigners expreſs it, from the differences to the ſums, by the name of the *inverſe method of fluxions*.

Hence, the integration is known to be juſtly performed, if the quantity found, according to the rules of the differential calculus, being differenced, produce that propoſed to be ſummed.

Suppoſe $\int$ the ſign of the ſum, or integral quantity, then $\int y\,dx$ will denote the ſum, or integral of the differential $y\,dx$. Calculus.

To integrate, or ſum up a differential quantity: It is demonſtrated, firſt, that $\int dx=x$; ſecondly, $\int(dx+dy)=x+y$: thirdly, $\int(x\,dy+y\,dx)=x\,y$: fourthly, $\int(x^m\,dx=x^{m-1}\,dx=x^m$: fifthly, $\int(x:m)\;x^{\frac{n-m}{m}}dx=x^{\frac{n}{m}}$: ſixthly, $\int(y\,dx-x\,dy):y^2=x:y$. Of theſe, the fourth and fifth caſes are the moſt frequent, wherein the differential quantity is integrated, by adding a variable unity to the exponent, and dividing the ſum by the new exponent multiplied into the differential of the root; v. g. the fourth caſe, by $m-(1+1)\,dx$, i. e. by $m\,dx$.

If the differential quantity to be integrated doth not come under any of theſe formulas, it muſt either be reduced to an integral finite, or an infinite ſeries, each of whoſe terms may be ſummed.

It may be here obſerved, that, as in the analyſis of finites, any quantity may be raiſed to any degree of power; but *vice verſa*, the root cannot be extracted out of any number required: ſo in the analyſis of infinites, any variable or flowing quantity may be differenced; but *vice verſa*, any differential cannot be integrated. And as, in the analyſis of finites, we are not yet arrived at a method of extracting the roots of all equations, ſo neither has the integral calculus arrived at its perfection: and as in the former we are obliged to have recourſe to approximation, ſo in the latter we have recourſe to infinite ſeries, where we cannot attain to a perfect integration.

Calculus Literalis, or *Literal Calculus*, is the ſame with ſpecious arithmetic, or algebra, ſo called from its uſing the letters of the alphabet; in contradiſtinction to numeral arithmetic, which uſes figures. In the literal calculus given quantities are expreſſed by the firſt letters, $a\,b\,c\,d$; and quantities ſought by the laſt $z\,y\,x$, &c. Equal quantities are denoted by the ſame letters.

Calculus Minervæ, among the ancient lawyers, denoted the deciſion of a cauſe, wherein the judges were equally divided. The expreſſion is taken from the hiſtory of Oreſtes, repreſented by Æſchylus and Euripides; at whoſe trial, before the Areopagites, for the murder of his mother, the votes being equally divided for and againſt him, Minerva interpoſed, and gave the caſting vote or calculus in his behalf.

M. Cramer, profeſſor at Marpurg, has a diſcourſe expreſs, *De Calculo Minervæ*; wherein he maintains, that all the effect an entire equality of voices can have, is to leave the cauſe *in ſtatu quo*.

Calculus Tiburtinus, a ſort of figured ſtone, formed in great plenty about the cataracts of the Anio, and other rivers in Italy; of a white colour, and in ſhape oblong, round, or echinated. They are a ſpecies of the *ſtiriæ lapideæ*, and generated like them; and ſo like ſugar-plums in the whole, that it is a common jeſt at Rome to deceive the unexperienced by ſerving them up at deſerts.

Calculus, in Medicine, the diſeaſe of the ſtone in the bladder, or kidneys. The term is Latin, and ſignifies a *little pebble*. The calculus in the bladder is called *lithiaſis*; and in the kidneys, *nephritis*. See Medicine and Surgery.

Human calculi are commonly formed of different ſtrata

Calcutta. ſtrata or incruſtations; ſometimes ſmooth and heavy like mineral ſtones; but oftener rough, ſpongy, light, and full of inequalities or protuberances: chemically analyſed, or diſtilled in an open fire, they nearly yield the ſame principles as urine itſelf, or at leaſt an empyreumatic volatile urinous matter, together with a great deal of air. They never have, nor can have, naturally, any foreign matter for a baſis: but they may by accident; an inſtance of which is related by Dr Pereival*. A bougie had unfortunately ſlipped into the bladder, and upon it a ſtone of a conſiderable ſize was formed in leſs than a year. This ſtone had ſo much the appearance of chalk, that the Doctor was induced to try whether it could be converted into quicklime. His experiment ſucceeded, both with that and ſome other calculi; from which he conjectures, that hard waters which contain calcareous earth may contribute towards the formation of theſe calculi.

* *Eſſays*, Vol. III. p. 165.

CALCUTTA, the capital of the province of Bengal, and of all the Britiſh poſſeſſions in the Eaſt Indies, is ſituated on the river Huguely, a branch of the Ganges, about 100 miles from the ſea, in N. Lat. 23. and 88. 28. E. Long. from Greenwich. It is but a modern city, built on the ſite of a village called *Govindpour*. The Engliſh firſt obtained the Mogul's permiſſion to ſettle in this place in the year 1690; and Mr Job Channock, the company's agent, made choice of the ſpot on which the city ſtands, on account of a large ſhady grove which grew there; though in other reſpects it was the worſt he could have pitched upon; for three miles to the north eaſt, there is a ſalt-water lake, which overflows in September, and when the flood retires in December, leaves behind ſuch a quantity of fiſh and other putreſcent matter, as renders the air very unhealthy. The cuſtom of the Gentoos throwing the dead bodies of their poor people into the river is alſo very diſguſtful, and undoubtedly contributes to render the place unhealthy, as well as the cauſe already mentioned.

Calcutta is now become a large and populus city, being ſuppoſed at preſent to contain 500,000 inhabitans. It is elegantly built, at leaſt the part inhabited by the Engliſh; but the reſt, and that the greateſt part, is built after the faſhion of the cities of India in general. The plan of all theſe is nearly the ſame; their ſtreets are exceedingly confined, narrow, and crooked, with a vaſt number of ponds, reſervoirs, and gardens interſperſed. A few of the ſtreets are paved with brick. The houſes are built, ſome with brick, others with mud, and a ſtill greater number with bamboes and mats; all which different kinds of fabrics ſtanding intermixed with one another, form a very uncouth appearance. The brick houſes are ſeldom above two ſtories high, but thoſe of mud and bamboes are only one, and are covered with thatch. The roofs of the brick houſes are flat and terraced. Theſe, however, are much fewer in number than the other two kinds; ſo that fires, which often happen, do not ſometimes meet with a brick houſe to obſtruct their progreſs in a whole ſtreet. Within theſe 20 or 25 years Calcutta has been greatly improved both in appearance and in the ſalubrity of its air: the ſtreets have been properly drained, and the ponds filled; thereby removing a vaſt ſurface of ſtagnant water, the exhalations of which were particularly hurtful. The citadel is named Fort William, and is ſuperior as a fortreſs to any in India; but is now on too extenſive a ſcale to anſwer the purpoſe for which it was intended, viz. the holding a poſt in caſe of extremity. It was begun on this extended plan by lord Clive immediately after the battle of Plaſſey. The expence attending it was ſuppoſed to amount to two millions Sterling. Calcutta.

Calcutta is the emporium of Bengal, and the reſidence of the governor-general of India. Its flouriſhing ſtate may in a great meaſure be ſuppoſed owing to the unlimited toleration of all religions allowed here; the Pagans being ſuffered to carry their idols in proceſſion, the Mahommedans not being diſcountenanced, and the Roman Catholics being allowed a church.—At about 2 miles diſtance from the town is a plain where the natives annually undergo a very ſtrange kind of penance on the 9th of April; ſome for the ſins they have committed, others for thoſe they may commit, and others in conſequence of a vow made by their parents. This ceremony is performed in the following manner. Thirty bamboes, each about the height of 20 feet, are erected in the plain above mentioned. On the top of theſe they contrive to fix a ſwivel, and another bamboe of thirty feet or more croſſes it, at both ends of which hangs a rope. The people pull down one end of this rope, and the devotee placing himſelf under it, the Brahmin pinches up a large piece of ſkin under both the ſhoulderblades, ſometimes in the breaſts, and thruſts a ſtrong iron hook through each. Theſe hooks have lines of Indian graſs hanging to them, which the prieſt makes faſt to the rope at the end of the croſs bamboe, and at the ſame time puts a faſh round the body of the devotee, laying it looſely in the hollow of the hooks, leſt by the ſkin's giving way, he ſhould fall to the ground. When this is done, the people haul down the other end of the bamboe; by which means the devotee is immediately lifted up 30 feet or more from the ground, and they run round as faſt as their legs can carry them. Thus the devotee is thrown out the whole length of the rope, where, as he ſwings, he plays a thouſand antic tricks; being painted and dreſſed in a very particular manner, on purpoſe to make him look more ridiculous. Some of them continue ſwinging half an hour, others leſs. The devotees undergo a preparation of four days for this ceremoney. On the firſt and third they abſtain from all kinds of food; but eat fruit on the other two. During this time of preparation they walk about the ſtreets in their fantaſtical dreſſes, dancing to the ſound of drums and horns; and ſome, to expreſs the greater ardour of devotion, run a rod of iron quite through their tongues, and ſometimes through their cheeks alſo.

Before the war of 1755, Calcutta was commonly garriſoned by 300 Europeans, who were frequently employed in conveying the company's veſſels from Patna, loaded with ſalt-petre, piece-goods, opium, and raw ſilk. The trade of Bengal alone ſupplied rich cargoes for 50 or 60 ſhips annually, beſides what was carried on in ſmall veſſels to the adjacent countries. It was this flouriſhing ſtate of Calcutta that probably was one motive for the Nabob Surajah Dowla to attack it in the year 1756. Having had the fort of Coſſimbuzar delivered up to him, he marched againſt Calcutta with all his forces, amounting to 70,000 horſe and foot, with

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Calcutta. with 400 elephants, and inveſted the place on the 15th of June. Previous to any hoſtilities, however, he wrote a leter to Mr Drake the governor, offering to withdraw his troops, on condition that he would pay him his duty on the trade for 15 years paſt, defray the expence of his army, and deliver up the black merchants who were in the fort. This being refuſed, he attacked one of the redoubts at the entrance of the town; but was repulſed with great ſlaughter. On the 16th he attacked another advanced poſt, but was likewiſe repulſed with great loſs. Notwithſtanding this diſappointment, however, the attempt was renewed on the 18th, when the troops abandoned theſe poſts, and retreated into the fort; on which the Nabob's troops entered the town, and plundered it for 24 hours. An order was then given for attacking the fort; for which purpoſe a ſmall breaſt-work was thrown up, and two twelve pounders mounted upon it; but without firing oftener than two or three times an hour. The governor then called a council of war, when the captain of the train informed them, that there was not ammunition in the fort to ſerve three days; in conſequence of which the principal ladies were ſent on board the ſhips lying before the fort. They were followed by the governor, who declared himſelf a quaker, and left the place to be defended by Mr Holwell the ſecond in council. Beſides the governor, four of the council, eight gentlemen in the company's ſervice, four officers, and 100 ſoldiers, with 52 free merchants, captains of ſhips, and other gentlemen, eſcaped on board the ſhips, where were alſo 59 ladies, with 33 of their children. The whole number left in the fort were about 250, effective men, with Mr Holwell, four captains, five lieutenants, ſix enſigns, and five ſerjeants; as alſo 14 ſea-captains, and 29 gentlemen of the factory. Mr Holwell then having held a council of war, divided three cheſts of treaſure among the diſcontented ſoldiers; making them large promiſes alſo, if they behaved with courage and fidelity; after which he boldly ſtood on the defence of the place, notwithſtanding the immenſe force which oppoſed him. The attack was very vigorous; the enemy having got poſſeſſion of the houſes, galled the Engliſh from thence, and drove them from the baſtions; but they themſelves were ſeveral times diſlodged by the fire from the fort, which killed upwards of 12,000 men, with the loſs of only five Engliſh ſoldiers the firſt day. The attack, however, was continued till the afternoon of the 20th; when many of the garriſon being killed and wounded, and their ammunition almoſt exhauſted, a flag of truce was hung out. Mr Holwell intended to have availed himſelf of this opportunity to make his eſcape on board the ſhips, but they had fallen ſeveral miles down from the fort, without leaving even a ſingle boat to facilitate the eſcape of thoſe who remained. In the mean time, however, the back-gate was betrayed by the Dutch guard, and the enemy, entering the fort, killed all they firſt met, and took the reſt priſoners.

The fort was taken before ſix in the evening; and, in an hour after, Mr Holwell had three audiences of the Nabob, the laſt being in the durbar or council. In all of theſe the governor had the moſt poſitive aſſurances that no harm ſhould happen to any of the priſoners; but he was ſurpriſed and enraged at finding only 5000l. in the fort, inſtead of the immenſe treaſures he expected; and to this, as well as perhaps to the reſentment of the jemmidaars or officers, of whom many were killed in the ſiege, we may impute the cataſtrophe that followed. Calcutta.

As ſoon as it was dark, the Engliſh priſoners, to the number of 146, were directed by the jemmidaars who guarded them, to collect themſelves into one body, and ſit down quietly under the arched veranda, or piazza, to the weſtward of the black-hole priſon. Beſides the guard over them, another was placed at the ſouth-end of this veranda, to prevent the eſcape of any of them. About 500 gunmen, with lighted matches, were drawn up on the parade; and ſoon after the factory was in flames to the right and left of the priſoners, who had various conjectures on this appearance. The fire advanced with rapidity on both ſides; and it was the prevailing opinion of the Engliſh, that they were to be ſuffocated between the two fires. On this they ſoon came to a reſolution of ruſhing on the guard, ſeizing their ſcymitars, and attacking the troops upon the parade, rather than be thus tamely roaſted to death: but Mr Holwell advanced, and found the Moors were only ſearching for a place to confine them in. At that time Mr Holwell might have made his eſcape, by the aſſiſtance of Mr Leech, the company's ſmith, who had eſcaped when the Moors entered the fort, and returned juſt as it was dark, to tell Mr Holwell he had provided a boat, and would inſure his eſcape, if he would follow him through a paſſage few were acquainted with, and by which he then entered. This might eaſily have been accompliſhed, as the guard took little notice of it: but Mr Holwell told Mr Leech, he was reſolved to ſhare the fate of the gentlemen and the garriſon; to which Mr Leech gallantly replied, that "then he was reſolved to ſhare Mr Holwell's fate, and would not leave him."

The guard on the parade advanced, and ordered them all to riſe and go into the barracks. Then, with their muſkets preſented, they ordered them to go into the black-hole priſon; while others, with clubs and ſcymitars, preſſed upon them ſo ſtrong, that there was no reſiſting it; but, like one agitated wave impelling another, they were obliged to give way and enter; the reſt following like a torreot. Few among them, the ſoldiers excepted, had the leaſt idea of the dimenſions or nature of a place they had never ſeen; for if they had, they ſhould at all events have ruſhed upon the guard, and been cut to pieces by their own choice as the leſſer evil.

It was about eight o'clock when theſe 146 unhappy perſons, exhauſted by continual action and fatigue, were thus crammed together into a dungeon about eighteen feet ſquare, in a cloſe ſultry night in Bengal; ſhut up to the eaſt and ſouth, the only quarters from whence air could reach them, by dead walls, and by a wall and door to the north; open only to the weſt by two windows, ſtrongly barred with iron, from which they could receive ſcarce any circulation of freſh air.

They had been but few minutes confined before every one fell into a perſpiration ſo profuſe, that no idea can be formed of it. This brought on a raging thirſt, which increaſed in proportion as the body was drained of its moiſture. Various expedients were thought

Calcutta. thought of to give more room and air. Every man was ſtripped, and every hat put in motion: they ſeveral times ſat down on their hams; but at each time ſeveral of the poor creatures fell, and were inſtantly ſuffocated or trod to death.

Before nine o'clock every man's thirſt grew intolerable, and reſpiration difficult. Efforts were again made to force the door; but ſtill in vain. Many inſults were uſed to the guards, to provoke them to fire in upon the priſoners, who grew outrageous, and many delirious. "Water, water," became the general cry. Some water was brought; but theſe ſupplies, like ſprinkling water on fire, only ſerved to raiſe and feed the flames. The confuſion became general, and horrid from the cries and ravings for water; and ſome were trampled to death. This ſcene of miſery proved entertainment to the brutal wretches without, who ſupplied them with water, that they might have the ſatisfaction of ſeeing them fight for it, as they phraſed it; and held up lights to the bars, that they might loſe no part of the inhuman diverſion.

Before eleven o'clock, moſt of the gentlemen were dead, and one third of the whole. Thirſt grew intolerable: but Mr Holwell kept his mouth moiſt by ſucking the perſpiration out of his ſhirt-ſleeves, and catching the drops as they fell, like heavy rain, from his head and face. By half an hour after eleven, moſt of the living were in an outrageous delirium. They found that water heightened their uneaſineſſes; and "Air, air," was the general cry. Every inſult that could be deviſed againſt the guard, all the opprobrious names that the viceroy and his officers could be loaded with, were repeated, to provoke the guard to fire upon them. Every man had eager hopes of meeting the firſt ſhot. Then a general prayer to heaven, to haſten the approach of the flames to the right and left of them, and put a period to their miſery. Some expired on others; while a ſteam aroſe as well from the living as the dead, which was very offenſive.

About two in the morning, they crowded ſo much to the windows, that many died ſtanding, unable to fall by the throng and equal preſſure round. When the day broke, the ſtench ariſing from the dead bodies was unſufferable. At that juncture, the Soubah, who had received an account of the havoc death had made among them, ſent one of his officers to enquire if the chief ſurvived. Mr Holwell was ſhown to him; and near ſix an order came for their releaſe.

Thus they had remained in this infernal priſon from eight at night until ſix in the morning, when the poor remains of 146 ſouls, being only 23, came out alive; but moſt of them in a high putrid fever. The dead bodies were dragged out of the hole by the ſoldiers, and thrown promiſcuouſly into the ditch of an unfiniſhed ravelin, which was afterwards filled with earth.

The injuries which Calcutta ſuffered at this time, however, were ſoon repaired. The place was retaken by Admiral Watſon and Colonel Clive, early in 1757; Surajah Dowle was defeated, depoſed, and put to death; and Meer Jaffier, who ſucceeded him in the Nabobſhip, engaged to pay an immenſe ſum for the indemnification of the inhabitants. Since that time the immenſe acquiſition of territory by the Britiſh in this part of the world, with the conſtant ſtate of ſecurity enjoyed by this city, have given an opportunity of embelliſhing and improving it greatly beyond what it was before.—Among theſe improvements we may reckon that of Sir William Jones; who, on the 15th of January 1784, inſtituted a ſociety for inquiring into the hiſtory civil and natural, the antiquities, arts, ſciences, and literature of Aſia; and thus the literature of Europe, and along with it, it is to be hoped, the arts of humanity, beneficence, and peace, have at length obtained a footing in the rich empire of Indoſtan, ſo long a prey to the rapine and violence of tyrants and uſurpers. Caldarium || Calderwood

CALDARIUM, in the ancient baths, denoted a brazen veſſel or ciſtern, placed in the hypocauſtum, full of hot water, to be drawn thence into the *piſcina* or bath, to give it the neceſſary degree of heat. In this ſenſe, the *caldarium* ſtood contradiſtinguiſhed from the *tepidarium* and *frigidarium*.

CALDARIUM alſo denoted the ſtove, or ſudatory, being a cloſe vaulted room, wherein by hot dry fumes, without water, people were brought to a profuſe ſweat. In which ſenſe, *caldarium* was the ſame with what was otherwiſe denominated *vaporarium*, *ſudatorium*, and *laconium*; in the Greek baths, *hypocauſtum*, ὑποκαυστον.

CALDERINUS (Domitius), a learned critic, born at Calderia near Verona: He read lectures upon polite literature at Rome with great reputation; and was the firſt who ventured to write upon the moſt difficult of the ancient poets. He died very young in 1477.

CALDERON, De la Barca, (Dom. Pedro), a Spaniſh officer, who, after having ſignalized himſelf in the military profeſſion, quitted it for the eccleſiaſtical, and then commenced dramatic writer. His dramatic works make 9 vols in 4to, and ſome Spaniſh authors have compared him to Shakeſpeare. He flouriſhed about the year 1640.

CALDERWOOD (David), a famous divine of the church of Scotland, and a diſtinguiſhed writer in behalf of the Preſbyterians, was deſcended of a good family in that kingdom; and being early deſigned for the miniſtry, he applied with great diligence to the ſtudy of the Scriptures in their original tongues, the works of the fathers, the councils, and the beſt writers on church-hiſtory. He was ſettled about the year 1604 at Crelling near Jedburgh. King James I. of Great Britain, being deſirous of bringing the church of Scotland nearer to a conformity with that of England, laboured earneſtly to reſtore the epiſcopal authority, and enlarge the powers of the biſhops who were then in Scotland. This deſign was very warmly oppoſed by many of the miniſters, and particularly by Mr David Calderwood; who, when Mr James Law, biſhop of Orkney, came to viſit the preſbyteries of Merſe and Teviotdale, declined his juriſdiction by a paper under his hand dated May 5th 1608. But the king having its ſucceſs much at heart, ſent the earl of Dunbar, then high-treaſurer of Scotland, with Dr Abbot afterwards archbiſhop of Canterbury, and two other divines, into that kingdom, with inſtructions to employ every method to perſuade both the clergy and laity of his majeſty's ſincere deſire to promote the good of the church, and of his zeal for the Proteſtant religion. Mr Calderwood did not aſſiſt at the general aſſembly held at Glaſgow June 8th 1610, in which lord Dun-

Cald rwood.

bar preſided as commiſſioner; and it appears from his writings, that he looked upon every thing tranſacted in it as null and void. In May following, king James went to Scotland; and on the 17th of June held a parliament at Edinburgh: at that time the clergy met in one of the churches, to hear and adviſe with the biſhops; which kind of aſſembly, it ſeems, was contrived in order to reſemble the Engliſh convocation. Mr Calderwood was preſent at it, but declared publicly that he did not take any ſuch meetings to reſemble a convocation; and being oppoſed by Dr Whitford and Dr Hamilton, who were friends to the biſhops, he took his leave of them in theſe words: "It is abſurd to ſee men ſitting in ſilks and ſattins, and to cry poverty in the kirk, when purity is departing." The parliament proceeded in the mean while in the diſpatch of buſineſs; and Mr Calderwood, with ſeveral other miniſters, being informed that a bill was depending to empower the king, with the advice of the archbiſhops, biſhops, and ſuch a number of the miniſtry as his Majeſty ſhould think proper, to conſider and conclude as to matters decent for the external policy of the church, not repugnant to the word of God; and that ſuch concluſions ſhould have the ſtrength and power of eccleſiaſtical laws: againſt this they proteſted, for four reaſons. 1. Becauſe their church was ſo perfect, that, inſtead of needing reformation, it might be a pattern to others. 2. General aſſemblies, as now eſtabliſhed by law, and which ought always to continue, might by this means be overthrown. 3. Becauſe it might be a means of creating ſchiſm, and diſturb the tranquillity of the church. 4. Becauſe they had received aſſurances, that no attempts ſhould be made to bring them to a conformity with the church of England. They deſired therefore, that, for theſe and other reaſons, all thoughts of paſſing ſuch a law might be laid aſide: but in caſe this be not done, they proteſt for themſelves and their brethren who ſhall adhere to them, that they can yield no obedience to this law when it ſhall be enacted, becauſe it is deſtructive of the liberty of the church; and therefore ſhall ſubmit to ſuch penalties, and think themſelves obliged to undergo ſuch puniſhments, as may be inflicted on them for diſobeying that law. This proteſt was ſigned by Mr Archibald Simſon on behalf of the members who ſubſcribed another ſeparate roll, which he kept for his juſtification. This proteſt was preſented to the clerk regiſter, who refuſed to read it before the ſtates in parliament. However, though not read, it had its effect; for although the bill had the conſent of parliament, yet the king thought fit to cauſe it to be laid aſide, and not long after called a general aſſembly at St Andrew's. Soon after the parliament was diſſolved, and Mr Calderwood was ſummoned to appear before the high-commiſſion court at St Andrew's, on the 8th of July following, to anſwer for his mutinous and ſeditious behaviour. July 10th, the king came to that city in perſon; when Mr Calderwood, being called upon, and refuſing to comply with what the king in perſon required of him, was committed to priſon. Afterwards the privy council, according to the power exerciſed by them at that time, directed him to baniſh himſelf out of the king's dominions before Michaelmas next; and not to return without licence. Having applied to the king for a prorogation of his ſentence without ſucceſs, becauſe he would neither acknowledge his offence, nor promiſe conformity for the future, he retired to Holland, where, in 1623, he publiſhed his celebrated piece entitled *Altare Damaſcenum*. Mr Calderwood having in the year 1624 been afflicted with a long fit of ſickneſs, and nothing having been heard of him for ſome time, one Mr Patrick Scot, as Calderwood himſelf informs us, took it for granted that he was dead; and thereupon wrote a recantation in his name, as if, before his deceaſe, he had changed his ſentiments. This impoſture being detected, Scot went over to Holland, and ſtaid three weeks at Amſterdam, where he made a diligent ſearch for the author of Altare Damaſcenum, with a deſign to have diſpatched him. But Calderwood had privately retired into his own country, where he lived ſeveral years. Scot gave out that the king had furniſhed him with the matter for the pretended recantation, and that he only put it in order. During his retirement, Mr Calderwood collected all the memorials relating to the eccleſiaſtical affairs of Scotland, from the beginning of the reformation there down to the death of king James; which collection is ſtill preſerved in the univerſity library of Glaſgow; that which was publiſhed under the title of "The true hiſtory of Scotland," is only an extract from it. In the advertiſement prefixed to the laſt edition of his Altare Damaſcenum mention is made of his being miniſter of Pencaitland near Edinburgh in 1638; but we find nothing ſaid there, or any where elſe, of his death.

Caldron || Caleb.

CALDRON, a large kitchen utenſil, commonly made of copper; having a moveable iron handle, whereby to hang it on the chimney-hook. The word is formed from the French *chaudron*, or rather the Latin *caldarium*.

Boiling in CALDRONS, *(caldariis decoquere)*, is a capital puniſhment ſpoken of in the middle-age writers, decreed to divers ſorts of criminals, but chiefly to debaſers of the coin. One of the torments inflicted on the ancient Chriſtian martyrs, was boiling in caldrons of water, oil, &c.

CALDWALL (Richard), a learned Engliſh phyſician, born in Staffordſhire about the year 1513. He ſtudied phyſic in Brazen-Noſe college Oxford; and was examined, admitted unto, and made cenſor of, the college of phyſicians at London, all in one day. Six weeks after he was choſen one of the elects; and in the year 1570, was made preſident of that college. Mr Wood tells us, that he wrote ſeveral pieces in his profeſſion; but he does not tell us what they were, only that he tranſlated a book on the art of ſurgery, written by one Horatio More, a Florentine phyſician. We learn from Cambden, that Caldwall founded a chirurgical lecture in the college of phyſicians, and endowed it with a handſome ſalary. He died in 1585.

CALEA, in botany: A genus of the polygamia æqualis order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ*. The receptacle is paleaceous, the pappus hairy, and the calyx imbricated.

CALEB, one of the deputies ſent by the Iſraelites to take a view of the land of Canaan. He made a good report of the country, and by this means revived the ſpirits of the dejected people; on which account, he and Joſhua were the only perſons who, after their leaving Egypt, ſettled in the land of Canaan. Caleb had,

Caledonia. had, for his ſhare, the mountains and the city of Hebron, from which he drove three kings. Othoniel his nephew having taken the city of Debir, Caleb gave him his daughter Achſah in marriage; and died, aged 114.

CALEDONIA, the ancient name of Scotland. From the teſtimonies of Tacitus, Dio, and Solious, we find, that the ancient Caledonia comprehended all that country lying to the north of the rivers Forth and Clyde. In proportion as the Silures or Cimbri advanced towards the north, the Caledonians, being circumſcribed within narrower limits, were forced to tranſmigrate into the iſlands which crowd the weſtern coaſts of Scotland. It is in this period, probably, we ought to place the firſt great migration of the Britiſh Gaël into Ireland; that kingdom being much nearer to the promontory of Galloway and Cantire, than many of the Scottiſh iſles are to the continent of North Britain.

To the country which the Caledonians poſſeſſed, they gave the name of *Caël-doch*; which is the only appellation the Scots, who ſpeak the Gaelic language, know for their own diviſion of Britain. *Caël-doch* is a compound, made up of *Gaël* or *Caël*, the firſt colony of the ancient Gauls who tranſmigrated into Britain, and *doch*, a diſtrict or diviſion of a country. The Romans, by tranſpoſing the letter *l* in *Caël*, and by ſoftening into a Latin termination the *ch* of *doch*, formed the well known name of Caledonia.

When the tribes of North Britain were attacked by the Romans, they entered into aſſociations, that, by uniting their ſtrength, they might be more able to repel the common enemy. The particular name of that tribe, which either its ſuperior power or military reputation placed at the head of the aſſociation, was the general name given by the Romans to all the confederates. Hence it is that the *Meata*, who with other tribes inhabited the diſtricts of Scotland lying ſouthward of the frith, and the *Caledonians*, who inhabited the weſt and north-weſt parts, have engroſſed all the glory which belonged in common, though in an inferior degree, to all the other nations ſettled of old in North Britain. It was for the ſame reaſon that the name of *Meata* was entirely forgotten by foreign writers after the third century, and that of the *Caledonians* themſelves but ſeldom mentioned after the fourth.

Britons, *Caledonians*, *Meata*, *Barbarians*, are the names conſtantly given to the old inhabitants of North Britain, by Tacitus, Herodian, Dio, Spartian, Vopiſcus, and other ancient writers. The ſucceſſors of theſe Britons, Caledonians, Mœata, and Barbarians, are called Picts, Scots, and Attacots, by ſome Roman writers of the fourth century.

The origin of the appellation *Scoti* and *Picti*, introduced by latter Roman authors, has occaſioned much controverſy among the antiquarians of theſe days. The diſpute ſeems now to be fully decided by ſome learned critics of the preſent century, whoſe knowledge of the Gaelic language aſſiſted their inveſtigation. See SCOTLAND, PICTS, and HIGHLANDERS.

CALEDONIA, the name of a ſettlement made by the Scots on the weſt ſide of the gulph of Darien, in 1698; out of which they were ſtarved at the requeſt of the Eaſt-India company: for the Engliſh government prohibited the other colonies ſending them any proviſions; Caledonia. ſo they were obliged to leave it in 1700.

New CALEDONIA, an iſland in the ſouth-ſea, lately diſcovered by captain Cook, and, next to New Holland and New Zealand, is the largeſt iſland that hath yet been diſcovered in that ſea. It extends from 19. 37. to 22. 30. S. Lat. and from 163. 37. to 167. 14. E. Long. Its length from north-weſt to ſouth-eaſt is about 80 leagues; but its greateſt breadth does not exceed ten leagues. This iſland is diverſified by hills and valleys of various ſize and extent. From the hills iſſue abundance of rivulets, which contribute to fertilize the plains. Along its north-eaſt ſhore the land is flat; and being well watered, and cultivated by the inhabitants after their manner, appeared to great advantage to captain Cook's people. Was it not, indeed, for thoſe fertile ſpots on the plains, the whole country might be called *a dreary waſte*: the mountains and higher parts of the land are in general incapable of cultivation. They conſiſt chiefly of rocks, many of which are full of mundic; the little ſoil that is upon them is ſcorched and burnt up by the ſun; it is, however, covered with coarſe graſs and other plants, and here and there covered with trees and ſhrubs. The country in general bears a great reſemblance to thoſe parts of New South Wales which lie under the ſame parallel of latitude. Several of its natural productions are the ſame, and the woods are without underwood as well as in that country. The whole coaſt ſeems to be ſurrounded by reefs and ſhoals, which render all acceſs to it extremely dangerous; but at the ſame time guard the coaſts againſt the attacks of the wind and ſea; rendering it eaſily navigable along the coaſt by canoes, and cauſing it abound with fiſh. Every part of the coaſt ſeems to be inhabited; the plantations in the plains are laid out with great judgment, and cultivated with much labour. They begin their cultivation by ſetting fire to the graſs, &c. with which the ground is covered, but have no notion of preſerving its vigour by manure; they, however, recruit it by letting it lie for ſome years untouched. On the beach was found a large irregular maſs of rock, not leſs than a cube of ten feet, conſiſting of a cloſe-grained ſtone ſpeckled full of granates ſomewhat bigger than pins heads, from whence it ſeems probable that ſome valuable minerals may be found on this iſland. It differs from all the other iſlands yet diſcovered in the South Sea, by being entirely deſtitute of volcanic productions. Several plants of a new ſpecies were found here; and a few young breadfruit trees, not then ſufficiently grown to bear fruit, ſeemed to have come up without culture: plantains and ſugar-canes are here in ſmall quantity, and the cocoa-nut trees are ſmall and thinly planted. A new ſpecies of paſſion-flower was likewiſe met with, which was never known to grow wild any where but in America. Several *Caputi* (MELALEUCA) trees were alſo found in flower. Muſquetos here are very numerous. A great variety of birds were ſeen of different claſſes, which were for the moſt part entirely new; particularly a beautiful ſpecies of parrot before unknown to zoologiſts. A new ſpecies of fiſh, of the genus called by Linnæus *tetraodon*, was caught here; and its liver, which was very large, prepared at ſupper. Several ſpecies of this genus being reckoned poiſonous, and the preſent ſpecies being re-

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Caledonia. markably ugly, Meſſ. Forſters hinted their ſuſpicions of its quality; but the temptation of a freſh meal, and the aſſurances of captain Cook that he had formerly eaten this identical ſort of fiſh without harm, got the better of their ſcruples, and they eat of it. Its oilineſs, however, though it had no other bad taſte than what proceeded from this, prevented them from taking more than a morſel or two. In a few hours after they had retired to reſt, they were awakened by very alarming ſymptoms, being all ſeized with an extreme giddineſs; their hands and feet were numbed, ſo that they were ſcarcely able to crawl; and a violent langour and oppreſſion ſeized them. Emetics were adminiſtered with ſome ſucceſs, but ſudorifics gave the greateſt relief. Some dogs who had eaten the remainder of the liver were likewiſe taken ill; and a pig which had eaten the entrails died ſoon after, having ſwelled to an unuſual ſize. The effects of this poiſon on the gentlemen did not go entirely off in leſs than ſix weeks.—Abundance of turtle was ſeen here. The natives had not the leaſt notion of goats, hogs, dogs, or cats, and had not even a name for any of them.

The inhabitants are very ſtout, tall, and in general well proportioned; their features mild; their beards and hair black, and ſtrongly frizzled, ſo as to be ſomewhat woolly in ſome individuals: their colour is ſwarthy, or a dark chefnut brown. A few were ſeen who meaſured ſix feet four inches. They are remarkably courteous, not at all addicted to pilfering and ſtealing; in which character of honeſty they are ſingular, all the other nations in the South Sea being remarkably thieviſh. Some wear their hair long, and tie it up to the crown of their heads; others ſuffer only a large lock to grow on each ſide, which they tie up in clubs; many others, as well as all the women, wear it cropt ſhort. They make uſe of a kind of comb made of ſticks of hard wood, from ſeven to nine or ten inches long, and about the thickneſs of knitting needles; a number of theſe, ſeldom exceeding 20, but generally fewer, are faſtened together at one end, parallel to and near one tenth of an inch from each other; the ends, which are a little pointed, will ſpread out or open like the ſticks of a fan. Theſe combs they always wear in their hair on one ſide of their head. Some had a kind of concave cylindrical ſtiff black cap, which appeared to be a great ornament among them, and was ſuppoſed to be worn only by the chiefs and warriors. A large ſheet of ſtrong paper, whenever they got one in exchange, was commonly applied to this purpoſe. The men go naked; only tying a ſtring round their middle, and another round their neck. A little piece of a brown cloth made of the bark of a fig-tree, ſometimes tucked up to the belt, and ſometimes pendulous, ſcarcely deſerves the name of a covering; nor indeed does it ſeem at all intended for that purpoſe. This piece of cloth is ſometimes of ſuch a length, that the extremity is faſtened to the ſtring round the neck; to this ſtring they likewiſe hang ſmall round beads of a pale green nephritic ſtone. Coarſe garments were ſeen among them made of a ſort of matting; but they ſeemed never to wear them, except when in their canoes and unemployed. The women ſeemed to be in a ſervile ſtate: they were the only perſons of the family who had any employment, and ſeveral of them brought bundles of ſticks and fuel on their back: thoſe who had children carried them on their backs in a kind of ſatchel. The women alſo were ſeen to dig up the earth in order to plant it. They are in general of a dark chefnut, and ſometimes mahogany brown; their ſtature middle-ſized, ſome being rather tall, and their whole form rather ſtout, and ſomewhat clumſy. Their dreſs is the moſt diſfiguring that can be imagined, and gives them a thick ſquat ſhape; it is a ſhort petticoat or fringe, conſiſting of filaments or little cords, about eight inches long, which are faſtened to a very long ſtring, which they have tied ſeveral times round their waiſt. The filaments, or little ropes, therefore, lie above each other in ſeveral layers, forming a kind of thick thatch all round the body, but which does not near cover the thigh: theſe filaments were ſometimes dyed black; but frequently thoſe on the outſide only were of that colour, the reſt being of a dirty grey. There was not a ſingle inſtance, during the ſhip's ſtay in this iſland, of the women permitting any indecent familiarity with an European: they took pleaſure in practiſing the arts of a jilting coquette, but never became abſolute wantons. The general ornaments of both ſexes are ear-rings of turtoiſe ſhells; necklaces, or amulets, made both of ſhells and ſtones; and bracelets made of large ſhells, which they wear above the elbows. Caledonia.

The houſes, or huts, in New Caledonia, are circular, ſomething like a bee-hive, and full as cloſe and warm; the entrance is by a ſmall door, or long ſquare hole, juſt big enough to admit a man bent double: the ſide-walls are about four feet and a half high; but the roof is lofty, and peaked to a point at the top, above which is a poſt or ſtick of wood, which is generally ornamented either with carving or ſhells, or both. The framing is of ſmall ſpars, reeds, &c. and both ſides and roof are thick, and cloſe covered with thatch made of coarſe long graſs. In the inſide of the houſe are ſet up poſts, to which croſs ſpars are faſtened, and platforms made, for the conveniency of laying any thing on. Some houſes have two floors, one above another; the floor is laid with dried graſs, and here and there mats are ſpread for the principal people to ſit or ſleep on. In theſe houſes there was no paſſage for the ſmoke but through the door; they were intolerably ſmoky, and ſo hot as to be inſupportable to thoſe unaccuſtomed to them: probably the ſmoke is intended to drive out the muſquetos which ſwarm here. They commonly erect two or three of theſe huts near each other under a cluſter of lofty fig-trees, whoſe leaves are impervious to the rays of the ſun.

The canoes uſed here are very heavy clumſy veſſels; they are made of two trees hollowed out, having a raiſed gunnel about two inches high, and cloſed at each end with a bulk head of the ſame height; ſo that the whole is like a long ſquare trough about three feet ſhorter than the body of the canoe. Two canoes thus fitted are faſtened to each other about three feet aſunder, by means of croſs-ſpars, which project about a foot over each ſide. Over theſe is laid a deck or heavy platform made of plank and ſmall round ſpars, on which they have a fire-hearth, and generally a fire burning; they are navigated by one or two latteen ſails, extended to a ſmall latteen yard, the end of which is fixed in a notch or hole in the deck.

Notwithſtanding the inoffenſive diſpoſition of the inhabitants of New Caledonia, they are well provided with

Caledonia || Calenberg.

with offenſive weapons; as clubs, ſpears, darts, and ſlings for throwing ſtones. Their clubs are about two feet and an half long, and variouſly formed; ſome like a ſcythe, others like a pick-ax; ſome have a head like a hawk, and others have round heads; but all are neatly made; many of their darts and ſpears are no leſs neat, and ornamented with carvings. The ſlings are as ſimple as poſſible; but they take ſome pains to form the ſtones that they uſe into a proper ſhape, which is ſomething like an egg, ſuppoſing both ends to be like the ſmall one. They drive the dart by the aſſiſtance of ſhort cords knobbed at one end and looped at the other, called by the ſeamen *beckets*. Theſe contain a quantity of red wool taken from the vampyre, or great Indian bat. Bows and arrows are wholly unknown among them.

Their language bears no affinity to that ſpoken in the other South-ſea iſlands, the word *arreke* and one or two more excepted. This is the more extraordinary, as different dialects of one language were ſpoken not only in the eaſterly iſlands, but at New Zealand.

A muſical inſtrument, a kind of whiſtle, was procured here. It was a little poliſhed piece of brown wood about two inches long, ſhaped like a kind of bell, tho' apparently ſolid, with a rope fixed at the ſmall end; two holes were made in it near the baſe, and another near the inſertion of the rope, all which communicated with each other; and by blowing in the uppermoſt, a ſhrill ſound like whiſtling was produced: no other inſtrument was ſeen among them that had the leaſt relation to muſic.

Many of the New Caledonians were ſeen with prodigiouſly thick legs and arms, which ſeemed to be affected with a kind of leproſy; the ſwelling was found to be extremely hard, but the ſkin was not alike harſh and ſcaly in all thoſe who were afflicted with the diſorder. The preternatural expanſion of the arm or leg did not appear to be a great inconvenience to thoſe who ſuffered it; and they ſeemed to intimate that they very rarely felt any pain in it; but in ſome the diſorder began to form blotches, which are marks of a great degree of virulence.

Here they bury their dead in the ground. The grave of a chief who had been ſlain in battle here reſembled a large mole-hill, and was decorated with ſpears, darts, paddles, &c. all ſtuck upright in the ground round about it. Lieutenant Pickerſgill was ſhowed a chief whom they named *Tea-booma*, and ſtyled their *arreke* or *king*; but nothing further is known of their government, and nothing at all of their religion.

CALEFACTION, the production of heat in a body from the action of fire, or that impulſe impreſſed by a hot body on others around it. This word is uſed in pharmacy, by way of diſtinction from *coction*, which implies boiling; whereas calefaction is only heating a thing.

CALENBERG, a caſtle of Germany, in the duchy of Brunſwic and principality of Calenberg. It is ſeated on the river Leine, and is 15 miles ſouth of Hanover. It is ſubject to the duke of Brunſwic Lunenburg, elector of Hanover, and king of Great Britain. E. Long. 9. 43. N. Lat. 52. 20.

CALENBERG, a principality of Lower Saxony, and one of the three parts of the duchy of Brunſwic, is bounded on the north by the duchy of Verden, on the eaſt by the principality of Zell, on the ſouth by the principalities of Grubenhagen and Wolfenbuttle, and on the weſt by Weſtphalia. It belongs to the elector of Hanover.

Calendar || Calenders.

CALENDAR, in aſtronomy and chronology. See KALENDAR.

CALENDAR of priſoners, in law, a liſt of all the priſoners names in the cuſtody of each reſpective ſheriff*. * See the article *Execution*.

CALENDARIUM FLORÆ, in botany, a calendar containing an exact regiſter of the reſpective times in which the plants of any given province or climate germinate, expand, and ſhed their leaves and flowers, or ripen and diſperſe their ſeeds. For particulars on this curious ſubject, ſee the articles DEFOLIATIO, EFFLORESCENTIA, FRONDESCENTIA, FRUCTESCENTIA, and GERMINATIO.

CALENDER, a machine uſed in manufactories to preſs certain woollen and ſilken ſtuffs and linens, to make them ſmooth, even, and gloſſy, or to give them waves, or water them, as may be ſeen in Mohairs and tabbies. This inſtrument is compoſed of two thick cylinders or rollers, of very hard and well poliſhed wood, round which the ſtuffs to be calendered are wound: theſe rollers are placed croſs-wiſe between two very thick boards, the lower ſerving as a fixed baſe, and the upper moveable by means of a thick ſcrew with a rope faſtened to a ſpindle which makes its axis: the uppermoſt board is loaded with large ſtones weighing 20,000lb. or more. At Paris they have an extraordinary machine of this kind, called the *royal calender*, made by order of M. Colbert. The lower table or plank is made of a block of ſmooth marble, and the upper is lined with a plate of poliſhed copper.—The alternate motion of the upper board ſometimes one way and ſometimes another, together with the prodigious weight laid upon it, gives the ſtuffs their gloſs and ſmoothneſs; or gives them the waves, by making the cylinders on which they are put roll with great force over the undermoſt board. When they would put a roller from under the calender, they only incline the undermoſt board of the machine. The dreſſing alone, with the many turns they make the ſtuffs and linens undergo in the calender, gives the waves, or waters them, as the workmen call it. It is a miſtake to think, as ſome have aſſerted, and Mr Chambers among others, that they uſe rollers with a ſhallow indenture or engraving cut into them.

CALENDER OF MONTEITH, a diſtrict in the ſouth-weſt corner of Perthſhire in Scotland, from which a branch of the ancient family of Livingſton had the title of Earl. The chief ſeat of the family near Falkirk is alſo called *Calender*. Both eſtate and title were forfeited for being engaged in the rebellion 1715.

CALENDERS, a ſort of Mahometan friars, ſo called from Santon Calenderi their founder. This Santon went bare-headed, without a ſhirt, and with the ſkin of a wild beaſt thrown over his ſhoulders. He wore a kind of apron before, the ſtrings of which were adorned with counterfeit precious ſtones. His diſciples are rather a ſect of Epicureans than a ſociety of religious. They honour a tavern as much as they do a moſque; and think they pay as acceptable worſhip to God by the

Calends || Calenture.

the free uſe of his creatures, as others do by the greateſt auſterities and acts of devotion. They are called, in Perſia and Arabia, *Abdals*, or *Abdallat*, i. e. perſons conſecrated to the honour and ſervice of God. Their garment is a ſingle coat, made up of a variety of pieces, and quilted like a rug. They preach in the market-places, and live upon what their auditors beſtow on them. They are generally very vicious perſons; for which reaſon they are not admitted into any houſes.

CALENDS, in Roman antiquity. See KALENDS.

CALENDULA, the MARIGOLD: A genus of the polygamia neceſſaria order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ*. The receptacle is naked, there is no pappus, the calyx is polyphyllous and equal, the ſeeds of the diſk membranaceous. Of this there are eight ſpecies, none of them natives of Europe. The common kind is ſo well known as to need no definition; and none of the others merit any, except the fruticoſa, which hath lately been introduced from the Cape of Good Hope. It hath a ſlender ſhrubby perennial ſtalk, which riſes to the height of ſeven or eight feet, but requires ſupport: this ſends out a great number of weak branches from the bottom to the top, which hang downward unleſs they are ſupported: they are garniſhed with oval leaves, having ſhort flat footſtalks; theſe are of a ſhining green colour on their upper ſide, but paler underneath: the flowers come out at the end of the branches, on ſhort naked footſtalks. This is eaſily propagated by cuttings; which may be planted at any time in ſummer in a ſhady border, or otherwiſe ſhaded with mats in the heat of the day: in five or ſix weeks theſe will have taken root, when they ſhould be ſeparately taken up, each put in a ſeparate pot, and placed in the ſhade till they have taken freſh root; then they may be placed, with other hardy exotic plants, in a ſheltered ſituation, where they may remain till the froſt begins, when they muſt be removed into the green-houſe, placing them near the windows, that they may enjoy the free air; for this plant only requires protection from froſt. The ſeeds of the common ſort may be ſown in March or April, where the plants are to remain; and will require no other culture but to keep them clear of weeds, and to thin the plants where they are too thick. The flowers of the common marigold are ſuppoſed to be aperient and attenuating, as alſo cardiac, alexipharmac, and ſudorific; they are principally celebrated in uterine obſtructions, the jaundice, and for throwing out the ſmall-pox. Their ſenſible qualities, however, give little foundation for theſe virtues: they have ſcarce any taſte, and have no conſiderable ſmell. The leaves of the plant diſcover a viſcid ſweetiſhneſs, accompanied with a more durable ſaponaceous pungency and warmth; theſe ſeem capable of anſwering ſome uſeful purpoſes as a ſtimulating, aperient, and antiſcorbutic medicine.

CALENTIUS (Eliſius), a Neapolitan poet and proſe author. He was preceptor to Frederic the ſon of Ferdinand king of Naples, and the earlieſt writer on the illegality of putting criminals to death, except for murder. He died in 1503.

CALENTURE, a feveriſh diſorder incident to ſailors in hot countries; the principal ſymptom of which is their imagining the ſea to be green fields: hence, attempting to walk abroad in theſe imaginary places of delight, they are frequently loſt. Vomiting, bleeding, a ſpare diet, and the neutral ſalts, are recommended in this diſorder; a ſingle vomit commonly removing the delirium, and the cooling medicines completing the cure. Caltpa || Calf.

CALEPIN (Ambroſius), an Auguſtin monk of Calepio, whence he took his name, in the 16th century. He is author of a dictionary of eight languages, ſince augmented by Paſſerat and others.

CALES (anc. geog.), a municipal city of ſome note in Campania, at no great diſtance from Caſilinum. The epithet *Calenus* is by Horace and Juvenal applied to a generous wine which the territory produced.

CALETES (anc. geog.), a people of Gallia Celtica, on the confines of Belgica, ſituated between the ſea and the Sequana. Now called *le Pais de Caux*, in Normandy.

CALETURE, a fort on the iſland of Ceylon, at the mouth of a river of the ſame name. The Dutch became maſters of it in 1655; but were afterwards obliged to leave it. E. Long. 80. 51. N. Lat. 6. 38.

CALF, in zoology, the young of the ox kind.

There are two ways of breeding calves that are intended to be reared. The one is to let the calf run about with its dam all the year round; which is the method in the cheap breeding countries, and is generally allowed to make the beſt cattle. The other is to take them from the dam after they have ſucked about a fortnight: they are then to be taught to drink ſkim milk, which is to be made but juſt warm for them, it being very dangerous to give it them too hot. The beſt time of weaning calves is from January to May: they ſhould have milk for 12 weeks after; and a fortnight before that is left off, water ſhould be mixed with the milk in larger and larger quantities. When the calf has been fed on milk for about a month, little whiſps of hay ſhould be placed all about him in cleft ſticks to induce him to eat. In the beginning of April they ſhould be turned out to graſs; only for a few days they ſhould be taken in for the night, and have milk and water given them: the ſame may alſo be given them in a pail ſometimes in the field, till they are ſo able to feed themſelves that they do not regard it. The graſs they are turned into muſt not be too rank, but ſhort and ſweet, that they may like it, and yet get it with ſome labour. Calves ſhould always be weaned at graſs; for if it be done with hay and water, they often grow big-belly'd on it, and are apt to rot. When thoſe among the males are ſelected which are to be kept as bulls, the reſt ſhould be gelt for oxen: the ſooner the better. Between 10 and 20 days is a proper age. About London almoſt all the calves are fatted for the butcher. The reaſon of this is, that there is a good market for them; and the lands there are not ſo profitable to breed upon as in cheaper countries. The way to make calves fat and fine is, the keeping them very clean; giving them freſh litter every day; and the hanging a large chalk-ſtone in ſome corner where they can eaſily get at it to lick it, but where it is out of the way of being fouled by their dung and urine. The coops are to be placed ſo as not to have too much ſun upon them, and ſo high above the ground that the urine may run off. They alſo bleed them once when they are a month old, and a ſecond time before they

Calf. kill them; which is a great addition to the beauty and whiteneſs of their fleſh: the bleeding is by ſome repeated much oftener, but this is ſufficient. Calves are very apt to be looſe in their bowels; which waſtes and very much injures them. The remedy is to give them chalk ſcraped among milk, pouring it down with a horn. If this does not ſucceed, they give them bole armenic in large doſes, and uſe the cold bath every morning. If a cow will not let a ſtrange calf ſuck her, the common method is to rub both her noſe and the calf's with a little brandy; this generally reconciles them after a few ſmellings.

Golden Calf, an idol ſet up and worſhipped by the Iſraelites at the foot of Mount Sinai in their paſſage through the wilderneſs to the land of Canaan. Our verſion makes Aaron faſhion this calf with a graving tool after he had caſt it in a mould: the Geneva tranſlation makes him engrave it firſt, and caſt it afterwards. Others, with more probability, render the whole verſe thus: "And Aaron received them (the golden earrings), and tied them up in a bag, and got them caſt into a molten calf;" which verſion is authoriſed by the different ſenſes of the word *tzur*, which ſignifies to tie up or bind, as well as to ſhape or form; and of the word *chertet*, which is uſed both for a graving tool and a bag. Some of the ancient fathers have been of opinion that this idol had only the face of a calf, and the ſhape of a man from the neck downwards, in imitation of the Egyptian Iſis. Others have thought it was only the head of an ox without a body. But the moſt general opinion is, that it was an entire calf in imitation of the Apis worſhipped by the Egyptians; among whom, no doubt, the Iſraelites had acquired their propenſity to idolatry. This calf Moſes is ſaid to have *burnt with fire*, reduced to powder, and ſtrewed upon the water which the people were to drink. How this could be accompliſhed hath been a queſtion. Moſt people have thought, that as gold is indeſtructible, it could only be burnt by the miraculous power of God; but M. Stahl conjectures that Moſes diſſolved it by means of liver of ſulphur*. The Rabbins tell us that the people were made to drink of this water in order to diſtinguiſh the idolaters from the reſt; for that as ſoon as they had drunk of it, the beards of the former turned red. The cabbaliſts add, that the calf weighed 125 quintals; which they gather from the Hebrew word *maſſekah*, whoſe numerical letters make 125.

* See Chemiſtry-Index.

Calf-Skins, in the leather manufacture, are prepared and dreſſed by the tanners, ſkinners, and curriers, who ſell them for the uſe of the ſhoe-makers, ſaddlers, bookbinders, and other artificers, who employ them in their ſeveral manufactures.

Calf-Skin dreſſed in ſumach, denotes the ſkin of this animal curried black on the hair ſide, and dyed of an orange colour on the fleſh ſide, by means of ſumach, chiefly uſed in the making of belts.

The Engliſh calf-ſkin is much valued abroad, and the commerce thereof very conſiderable in France and other countries; where divers attempts have been made to imitate it, but hitherto in vain. What is like to baffle all endeavours for imitating the Engliſh calf in France is, the ſmallneſs and weakneſs of the calves about Paris; which at fifteen days old are not ſo big as the Engliſh ones when they come into the world.

Sea-Calf. See PHOCA.

CALI, a town of Popayan in South America, ſeated in a valley of the ſame name on the river Cauca. The governor of the province uſually reſides there. W. Long. 78. 5. N. Lat. 3. 15. Cali, Caliber.

CALIBER, or CALIPER, properly denotes the diameter of any body; thus we ſay, two columns of the ſame caliber, the caliber of the bore of a gun, the caliber of a bullet, &c.

Caliber-Compaſſes, a ſort of compaſſes made with arched legs to take the diameter of round or ſwelling bodies. See COMPASSES.

Caliber-compaſſes, are chiefly uſed by gunners, for taking the diameters of the ſeveral parts of a piece of ordnance, or of bombs, bullets, &c. Their legs are therefore circular; and move on an arch of braſs, whereon is marked the inches and half inches, to ſhow how far the points of the compaſſes are opened aſunder.

Some are alſo made for taking the diameter of the bore of a gun or mortar.

The gaugers alſo ſometimes uſe calibers, to embrace the two heads of any caſk, in order to find its length.

The calibers uſed by carpenters and joiners, is a piece of board notched triangular-wiſe in the middle for the taking of meaſure.

Caliber-Rule, or *Gunner's Callipers*, is an inſtrument wherein a right line is ſo divided as that the firſt part being equal to the diameter of an iron or leaden ball of one pound weight, the other parts are to the firſt as the diameters of balls of two, three, four, &c. pounds are to the diameter of a ball of one pound. The caliber is uſed by engineers, from the weight of the ball given, to determine its diameter or caliber, or *vice verſa*.

The gunner's callipers conſiſt of two thin plates of braſs joined by a rivet, ſo as to move quite round each other: its length from the centre of the joint is between ſix inches and a foot, and its breadth from one to two inches; that of the moſt convenient ſize is about nine inches long. Many ſcales, tables, and proportions, &c. may be introduced on this inſtrument; but none are eſſential to it, except thoſe for taking the caliber of ſhot and cannon, and for meaſuring the magnitude of ſaliant and entering angles. The moſt complete callipers is exhibited Plate CXII. the furniture and uſe of which we ſhall now briefly deſcribe. Let the four faces of this inſtrument be diſtinguiſhed by the letters A, B, C, D: A and D conſiſt of a circular head and leg; B and C conſiſt only of a leg.

On the circular head adjoining to the leg of the face A are diviſions denominated *ſhot diameters*; which ſhow the diſtance in inches and tenths of an inch of the points of the callipers when they are opened; ſo that if a ball not exceeding ten inches be introduced between them, the bevil edge E marks its diameter among theſe diviſions.

On the circular bevil part E of the face B is a ſcale of diviſions diſtinguiſhed by *lb. weight of iron ſhot*. When the diameter of any ſhot is taken between the points of the callipers, the inner edge of the leg A ſhows its weight in avoirdupoiſe pounds, provided it be lb. $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 2, 3, 4, $5\frac{1}{2}$, 6, 8, 9, 12, 16, 18, 24, 26, 32, 36, or 42; the figures neareſt the bevil edge anſwering to the ſhort lines in the ſcale, and thoſe behind them to the longer ſtrokes. This ſcale is conſtructed

Calliber. ſtructed on the following geometrical theorem, *viz.* that the weights of ſpheres are as the cubes of their diameters.

On the lower part of the circular head of the face A is a ſcale of diviſions marked *bores of guns*; for the uſe of which, the legs of the callipers are ſlipped acroſs each other, till the ſteel points touch the concave ſurface of the gun in its greateſt breadth; then the bevil edge F of the face B will cut a diviſion in the ſcale ſhowing the diameter of the bore in inches and tenths.

Within the ſcales of *ſhot* and *bore* diameters on the circular part of A, are diviſions marked *pounders*: the inner figures $\frac{1}{2}$, $1\frac{1}{2}$, 3, $5\frac{1}{2}$, 8, 12, 18, 26, 36, correſpond to the longeſt lines; and the figures 1, 2, 4, 6, 9, 16, 24, 32, 42, to the ſhort ſtrokes. When the bore of a gun is taken between the points of the callipers, the bevil edge F will either cut or be near one of theſe diviſions, and ſhow the weight of iron-ſhot proper for that gun.

On the upper half of the circular head of the face A are three concentric ſcales of degrees; the outer ſcale conſiſting of 180 degrees numbered from right to left, 10, 20, &c. the middle numbered the contrary way, and the outer ſcale beginning at the middle with 0, and numbered on each ſide to 90 degrees. Theſe ſcales ſerve to take the quantity of an angle, either entering or faliant. For an entering or internal angle, apply the legs of the callipers ſo that its outward edges coincide with the legs of the given angle, the degree cut by the bevil edge F in the outer ſcale ſhows the meaſure of the angle ſought: for a faliant or external angle, ſlip the legs of the callipers acroſs each other, ſo that their outward edges may coincide with the legs forming the angle, and the degree marked on the middle ſcale by the bevil edge E will ſhow the meaſure of the angle required. The inner ſcale will ſerve to determine the elevation of cannon and mortars, or of any oblique plane. Let one end of a thread be fixed into the notch on the plate B, and any weight tied to the other end: apply the ſtraight ſide of the plate A to the ſide of the body whoſe inclination is ſought; hold it in this poſition, and move the plate B, till the thread falls upon the line near the centre marked *Perp.* Then will the bevil edge F cut the degrees on the inner ſcale, ſhowing the inclination of that body to the horizon.

On the face C near the point of the callipers is a little table ſhowing the proportion of troy and avoirdupoiſe weights, by which one kind of weight may be eaſily reduced into another.

Near the extreme of the face D of the callipers are two tables ſhowing the proportion between the pounds weight of London and Paris, and alſo between the lengths of the foot meaſure of England and France.

Near the extreme on the face A is a table containing four rules of the circle and ſphere; and geometrical figures with numbers annexed to them: the firſt is a circle including the proportion in round numbers of the diameter to its circumference; the ſecond is a circle inſcribed in a ſquare, and a ſquare within that circle, and another circle in the inner ſquare: the numbers 28, 22, above this figure exhibit the proportion of the outward ſquare to the area of the inſcribed circle; and the numbers 14, 11, below it ſhow the proportion between the area of the inſcribed ſquare and the area of its inſcribed circle. The third is a cube inſcribed in a ſphere; and the number $89\frac{1}{2}$ ſhows that a cube of iron, inſcribed in a ſphere of 12 inches in diameter, weighs $89\frac{1}{2}$. The fourth is a ſphere in a cube, and the number 243 expreſſes the weight in pounds of a ſphere inſcribed in a cube whoſe ſide is 12 inches: the fifth repreſents a cylinder and cone of one foot diameter and height: the number in the cylinder ſhows, that an iron cylinder of that diameter and height weighs 364.5 lb. and the number 121.5 in the cone expreſſes the weight of a cone, the diameter of whoſe baſe is 12 inches, and of the ſame height: the ſixth figure ſhows that an iron cube, whoſe ſide is 12 inches, weighs 464 lb. and that a ſquare pyramid of iron, whoſe baſe is a ſquare foot and height 12 inches, weighs $154\frac{3}{4}$ lb. The numbers which have been hitherto fixed to the four laſt figures were not ſtrictly true; and therefore they have been corrected in the figure here referred to; and by theſe the figures on any inſtrument of this kind ſhould be corrected likewiſe. Calliber Calicut.

On the leg B of the callipers, is a table ſhowing the weights of a cubic inch or foot of various bodies in pounds avoirdupoiſe.

On the face D of the circular head of the callipers is a table contained between five concentric ſegments of rings: the inner one marked *Guns* ſhows the nature of the gun or the weight of ball it carries; the two next rings contain the quantity of powder uſed for proof and ſervice to braſs guns, and the two outermoſt rings ſhow the quantity for proof and ſervice in iron cannon.

On the face A is a table exhibiting the method of computing the *number of ſhot or ſhells* in a triangular, ſquare, or rectangular pile. Near this is placed a table containing the principal rules relative to the *fall of bodies*, expreſſed in an algebraic manner: nearer the centre we have another table of rules for raiſing water, calculated on the ſuppoſition, that one horſe is equal in this kind of labour to five men, and that one man will raiſe a hogſhead of water to eight feet of height in one minute, and work at that rate for ſome hours. N. B. Hogſheads are reckoned at ſixty gallons.

Some of the leading principles in gunnery, relating to *ſhooting* in cannon and mortars, are expreſſed on the face B of the callipers. Beſides the articles already enumerated, the ſcales uſually marked on the ſector are laid down on this inſtrument: thus, the line of inches is placed on the edge of the callipers, or on the ſtraight borders of the faces C, D: the logarithmic ſcales of numbers, ſines, verſed ſines, and tangents, are placed along theſe faces near the ſtraight edges: the line of lines is placed on the ſame faces in an angular poſition, and marked *Lin.* The lines of plains or ſuperfices are alſo exhibited on the faces C and D, tending towards the centre, and marked *Plan.* Finally, the lines of ſolids are laid on the ſame faces tending towards the centre, and diſtinguiſhed by *Sol.*

CALICOULAN, or QUILLON, a town of Aſia, in the Eaſt Indies, on the coaſt of Malabar, and in the peninſula on this ſide the Ganges, where the Dutch have a factory. E. Long. 75. 21. N. Lat. 9. 5.

CALICUT, a kingdom of India, on this ſide the Ganges, upon the coaſt of Malabar. It is about 63 miles long, and as much broad. It has many woods, rivers, and marſhes, and is very populous; but does not produce much corn, abundance of rice being imported

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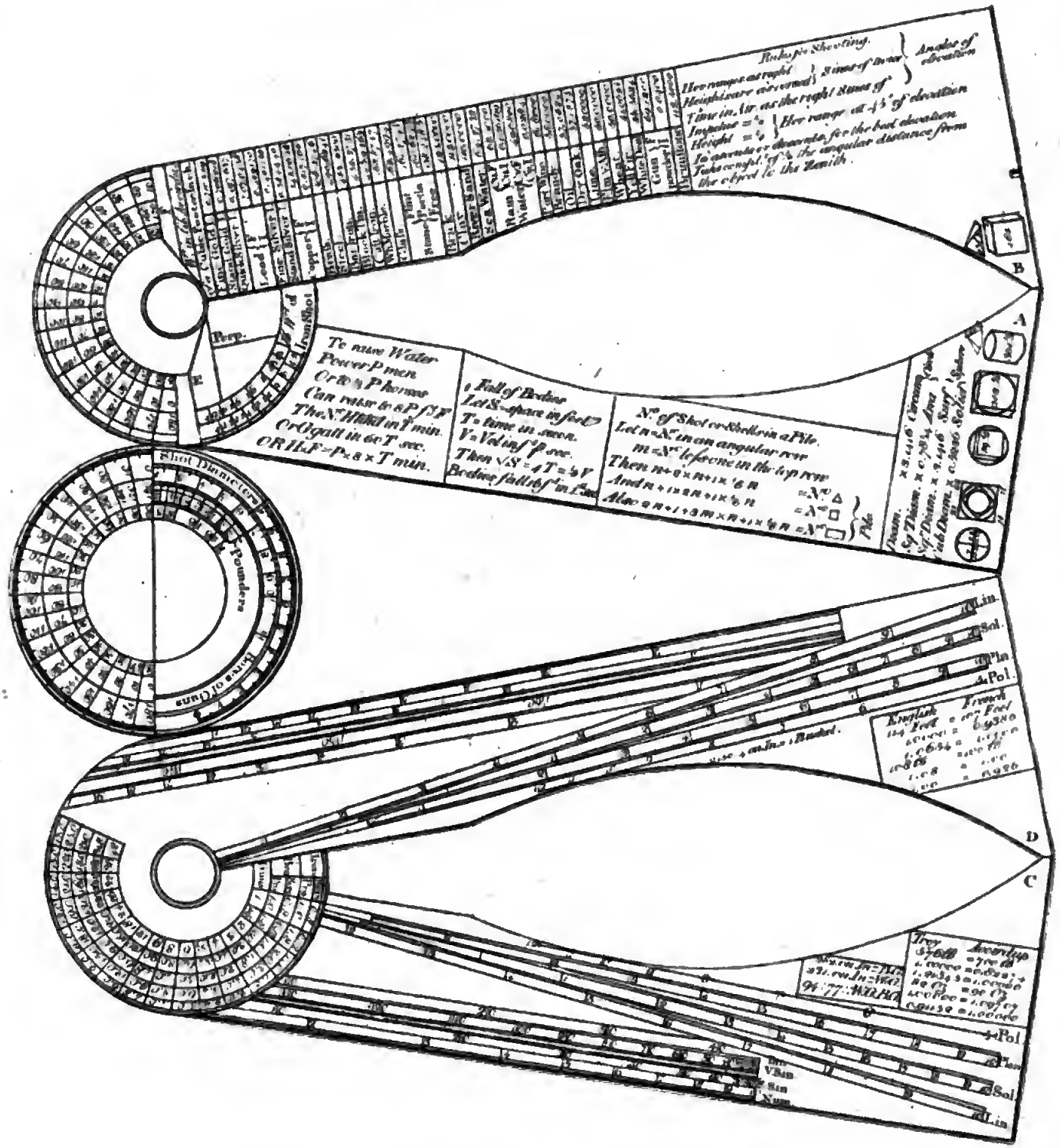

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Calicut & California.

ported from Canara. The land along the ſea-coaſt is low and ſandy, and produces a number of cocoa-trees. The higher grounds produce pepper and cardamoms of a very good quality. They have likewiſe timber for building, white and yellow ſanders, caſſia lignea, caſſia fiſtula, nux vomica, and cocculus indicus. The woods abound with parrots and monkeys, as well as different kinds of game. They have alſo plenty of fiſh, ſeveral ſorts of medicinal drugs, and their mountains produce iron. The *ſamorin*, or king, of Calicut, was once maſter of all the coaſt of Malabar; but at his death, he left it by will among four of his nephews. He who governs Calicut has a palace of ſtone, and there is ſome appearance of grandeur about his court. He carries on a conſiderable trade, which makes the people of Calicut richer than their neighbours. In former times they had ſeveral ſtrange cuſtoms, ſome of which are ſtill kept up; particularly the ſamorin's wife muſt be firſt enjoyed by the high prieſt, who may have her three nights if he pleaſes. The nobles permit the other prieſts to take the ſame liberty, but the lower people cannot have that honour. A woman may marry a number of huſbands; each of whom has her ten days or more by turns, as they agree among themſelves; and provides her all things neceſſary during that time. When ſhe proves with child, ſhe names the father; who, after the child is weaned, takes care of its education. Theſe people have no pens, ink, or paper; but write with a bodkin on flags that grow by the ſides of the rivers. By this means the letters are in ſome ſenſe engraved; and ſo tough are the flags, that they will laſt for a great number of years. This was the firſt land diſcovered by the Portugueſe in 1498.

CALICUT, a town of Aſia, in the kingdom of that name on the coaſt of Malabar. It contains a great number of mean low houſes, each of which has a garden. The Engliſh had a factory here, but it is removed to Tilicherry. E. Long. 76. 4. N. Lat. 11. 21.

CALIDÆ PLANTÆ (from *calor* heat); plants that are natives of warm climates. Such are thoſe of the Eaſt Indies, South America, Egypt, and the Canary Iſlands. Theſe plants, ſays Linnæus, will bear a degree of heat which is as 40 on a ſcale in which the freezing point is 0, and 100 the heat of boiling water. In the 10th degree of cold they ceaſe to grow, loſe their leaves, become barren, are ſuffocated, and periſh.

CALIDUCT, in antiquity, a kind of pipes or canal diſpoſed along the walls of houſes or apartments, uſed by the ancients for conveying heat to ſeveral remote parts of the houſe from one common furnace.

CALIFORNIA, the moſt northerly of all the Spaniſh dominions on the continent of America, is ſometimes diſtinguiſhed by the name of *New Albion*, and the *Iſles Carabiras*: but the moſt ancient appellation is *California*; a word probably owing to ſome accident, or to ſome words ſpoken by the Indians and miſunderſtood by the Spaniards. For a long time California was thought to be an iſland; but Father Caino, a German Jeſuit, diſcovered it to be a peninſula joining to the coaſt of New Mexico and the ſouthern parts of America. This peninſula extends from Cape St Sebaſtian, lying in north latitude 43. 30. to Cape St Lucar which lies in north latitude 22. 32. It is divided from New Mexico by the gulph, or as ſome call it the *lake*, of California, or *Vermilion Sea*, on the eaſt; on the north, by that part of the continent of North America which is leaſt known; and on the weſt and ſouth, by the Pacific Ocean or great South Sea. The coaſts, eſpecially towards the Vermilion Sea, are covered with inhabited iſlands, on ſome of which the Jeſuits have eſtabliſhed ſettlements, ſuch as St Clement, Paxaros, St Anne, Cedars (ſo called from the great number of theſe trees it produces), St Joſeph, and a multitude of others. But the iſlands beſt known are three lying off Cape St Lucar, towards the Mexican coaſt. Theſe are called *Les Tres Marias*, "the three Maries." They are but ſmall, have good wood and water, ſalt pits, and abundance of game; therefore the Engliſh and French pirates have ſometimes wintered there, when bound on cruizes in the South Seas. California.

As California lies altogether within the temperate zone, the natives are neither chilled with cold nor ſcorched with heat; and indeed the improvements in agriculture made by the Jeſuits afford ſtrong proofs of the excellency of the climate. In ſome places the air is extremely hot and dry; and the earth wild, rugged, and barren. In a country ſtretching about 800 miles in length, there muſt be conſiderable variations of ſoil and climate; and indeed we find, from good authority, that California produces ſome of the moſt beautiful lawns, as well as many of the moſt inhoſpitable deſarts, in the univerſe. Upon the whole, although California is rather rough and craggy, we are aſſured by the Jeſuit Venegas, and other good writers, that with due culture it furniſhes every neceſſary and conveniency of life; and that, even where the atmoſphere is hotteſt, vapours riſing from the ſea, and diſperſed by pleaſant breezes, render it of a moderate temperature.

The peninſula of California is now ſtocked with all ſorts of domeſtic animals known in Sapin and Mexico. Horſes, mules, aſſes, oxen, ſheep, hogs, goats, and all other quadrupeds imported, thrive and increaſe in this country. Among the native animals is a ſpecies of deer of the ſize of a young heifer, and greatly reſembling it in ſhape; the head is like that of a deer, and the horns thick and crooked like thoſe of a ram. The hoof of the animal is large, round, and cloven, the ſkin ſpotted, but the hair thinner and the tail ſharper than thoſe of a deer. Its fleſh is greatly eſteemed. There is another animal peculiar to this country, larger and more bulky than a ſheep, but greatly reſembling it in figure, and, like it, covered with a fine black or white wool. The fleſh of this animal is nouriſhing and delicious; and, happily for the natives, it is ſo abundant, that nothing more is required than the trouble of hunting, as theſe animals wander about in droves in the foreſts and on the mountains. Father Torquemado deſcribes a creature which he calls a *ſpecies of large bear*, ſomething like a buffalo, of the ſize of a ſteer, and nearly of the figure of a ſtag. Its hair is a quarter of a yard in length, its neck long and nukward, and on its forehead are horns branched like thoſe of a ſtag. The tail is a yard in length and half a yard in breadth; and the hoofs cloven like thoſe of an ox. With regard to birds, we have but an imperfect account; only, in general, Father Venegas tells us that the coaſt is plentifully ſtored with peacocks, buſtards, geeſe, cranes, and moſt of the birds common in other parts of the world. The quantity of fiſh which reſort to theſe

California. coaſts are incredible. Salmon, turbot, barbel, ſkate, mackerel, &c. are caught here with very little trouble; together with pearl oyſters, common oyſters, lobſters, and a variety of exquiſite ſhell-fiſh. Plenty of turtle are alſo caught on the coaſts. On the South Sea coaſts are ſome ſhell-fiſh peculiar to it, and perhaps the moſt beautiful in the world; their luſtre ſurpaſſing that of the fineſt pearl, and darting their rays through a tranſparent varniſh of an elegant vivid blue, like the lapis lazuli. The fame of California for pearls ſoon drew forth great numbers of adventurers, who ſearched every part of the gulph, and are ſtill employed in that work, notwithſtanding faſhion has greatly diminiſhed the value of this elegant natural production. Father Torquimado obſerves that the ſea of California affords very rich pearl fiſheries; and that the *boſſias*, or beds of oyſters, may be ſeen in three or four fathom water, almoſt as plain as if they were on the ſurface.

The extremity of the peninſula towards Cape St Lucar is more level, temperate, and fertile, than the other parts, and conſequently more woody. In the more diſtant parts, even to the fartheſt miſſions on the eaſt coaſt, no large timber hath yet been diſcovered. A ſpecies of manna is found in this country, which, according to the accounts of the Jeſuits, has all the ſweetneſs of refined ſugar without its whiteneſs. The natives firmly believe that this juice drops from heaven.

The Californians are well made, and very ſtrong. They are extremely puſilanimous, inconſtant, ſtupid, and even inſenſible, and ſeem extremely deſerving of the character given to the Indians in general, under the article AMERICA. Before the Europeans penetrated into California, the natives had no form of religion. The miſſionaries indeed tell us many tales concerning them, but they ſo evidently bear the marks of forgery as not to be worth repeating. Each nation was then an aſſemblage of ſeveral cottages more or leſs numerous, that were all mutually confederated by alliances, but without any chief. They were ſtrangers even to filial obedience. No kind of dreſs was uſed by the men; but the women made uſe of ſome coverings, and were even fond of ornamenting themſelves with pearls and ſuch other trinkets as the country afforded. What moſtly diſplayed their ingenuity was the conſtruction of their fiſhing nets, which are ſaid by the Jeſuits to have even exceeded in goodneſs thoſe made in Europe. They were made by the women, of a coarſe kind of flax procured from ſome plants which grow there. Their houſes were built of branches and leaves of trees: nay, many of them were only inclоſures of earth and ſtone, raiſed half a yard high, without any covering; and even theſe were ſo ſmall, that they could not ſtretch themſelves at length in them. In winter, they dwelt under ground in caves either natural or artificial.

In 1526, Ferdinand Cortez having reduced and ſettled Mexico, attempted the conqueſt of California; but was obliged to return, without even taking a ſurvey of the country, a report of his death having diſpoſed the Mexicans to a general inſurrection. Some other attempts were made by the officers of Cortez, but theſe were alſo unſucceſsful; and this valuable coaſt was long neglected by the Spaniards, who, to this day, have but one ſettlement upon it. In 1595, a galleon was ſent to make diſcoveries on the Californian ſhore; but the veſſel was unfortunately loſt. Seven years after, the count de Monteroy, then viceroy of New Spain, ſent Sebaſtian Biſcayno on the ſame deſign with two ſhips and a tender; but he made no diſcovery of importance. In 1684, the marquis de Laguna, alſo viceroy of new Spain, diſpatched two ſhips with a tender to make diſcoveries on the lake of California. He returned with an indifferent account, but was among the firſt that aſſerted that California was not an iſland; which was afterwards confirmed by Father Caino, as already related. In 1697, the Spaniards being diſcouraged by their loſſes and diſappointments, the Jeſuits ſolicited and obtained permiſſion to undertake the conqueſt of California. They arrived among the ſavages with curioſities that might amuſe them, corn for their food, and clothes for which they could not but perceive the neceſſity. The hatred theſe people bore the Spaniſh name could not ſupport itſelf againſt theſe demonſtrations of benevolence. They teſtified their acknowledgments as much as their want of ſenſibility and their inconſtancy would permit them. Theſe faults were partly overcome by the religious inſtitutors, who purſued their project with a degree of warmth and reſolution peculiar to the ſociety. They made themſelves carpenters, maſons, weavers, and huſbandmen; and by theſe means ſucceeded in imparting knowledge, and in ſome meaſure a taſte for the uſeful arts, to this ſavage people, who have been all ſucceſſively formed into one body. In 1745, they compoſed 43 villages, ſeparated from each other by the barrenneſs of the ſoil and the want of water. The inhabitants of theſe ſmall villages ſubſiſt principally on corn and pulſe, which they cultivate; and on the fruits and domeſtic animals of Europe, the breeding of which laſt is an object of continual attention. The Indians have each their field, and the property of what they reap; but ſuch is their want of foreſight, that they would ſquander in a day what they had gathered, if the miſſionary did not take upon himſelf to diſtribute it to them as they ſtand in need of it. They manufacture ſome coarſe ſtuffs; and the neceſſaries they are in want of are purchaſed with pearls, and with wine nearly reſembling that of Madeira, which they ſell to the Mexicans and to the galleons, and which experience hath ſhown the neceſſity of prohibiting in California. A few laws, which are very ſimple, are ſufficient to regulate this riſing ſtate. In order to enforce them, the miſſionary chooſes the moſt intelligent perſon of the village; who is empowered to whip and impriſon; the only puniſhments of which they have any knowledge. In all California there are only two garriſons, each conſiſting of 30 men and a ſoldier with every miſſionary. Theſe troops were choſen by the legiſlators, though they are paid by the government. Were the court of Madrid to puſh their intereſt with half the zeal of the Jeſuits, California might become one of the moſt valuable of their acquiſitions, on account of the pearls and other valuable articles of commerce which the country contains. At preſent the little Spaniſh town near Cape St Lucar is made uſe of for no other purpoſe than as a place of refreſhment for the Manila ſhips, and the head reſidence of the miſſionaries.

California, Caliga

CALIGA, in Roman Antiquity, was the proper ſol-

Caligati || Caliph.

ſoldier's ſhoe, made in the ſandal faſhion, without upper leather to cover the ſuperior part of the foot, tho' otherwiſe reaching to the middle of the leg, and faſtened with thongs. The ſole of the caliga was of wood, like the ſabot of the French peaſants, and its bottom ſtuck full of nails; which clavi are ſuppoſed to have been very long in the ſhoes of the ſcouts and ſentinels; whence theſe were called by way of diſtinction, *caligæ ſpeculatoriæ*; as if by mounting the wearer to a higher pitch, they gave a greater advantage to the ſight: though others will have the *caligæ ſpeculatoriæ* to have been made ſoft and woolly, to prevent their making a noiſe. From theſe *caligæ* it was that the emperor Caligula took his name, as having been born in the army, and afterwards bred up in the habit of a common ſoldier.

According to Du Cange, a ſort of *caligæ* was alſo worn by monks and biſhops, when they celebrated maſs pontifically.

CALIGATI, an appellation given by ſome ancient writers to the common ſoldiers in the Roman armies, by reaſon of the caliga which they wore. The caliga was the badge or ſymbol of a ſoldier; whence to take away the caliga and belt, imported a diſmiſſing or caſhiering.

CALIGO, or CALIGATIO, in Medicine, an opacity, or cloudineſs of the anterior ſurface of the cryſtalline, cauſing a dimneſs or ſuffuſion of ſight.

CALIGULA, the Roman emperor and tyrant, A. D. 37, began his reign with every promiſing appearance of becoming the real father of his people; but at the end of eight months he was ſeized with a fever, which, it is thought, left a frenzy on his mind: for his diſpoſition totally changed, and he committed the moſt atrocious acts of impiety, cruelty, and folly; ſuch as proclaiming his horſe conſul, feeding it at his table, introducing it to the temple in the veſtments of the prieſts of Jupiter, &c. and cauſing ſacrifices to be offered to himſelf, his wife, and the horſe. After having murdered many of his ſubjects with his own hand, and cauſed others to be put to death without any juſt cauſe, he was aſſaſſinated by a tribune of the people as he came out of the amphitheatre, A. D. 41, in the 29th year of his age, and 4th of his reign.

CALIN, a compound metal, whereof the Chineſe make tea-caniſters, and the like. The ingredients ſeem to be lead and tin.

CALIPH, or KHALIF, the ſupreme eccleſiaſtical dignity among the Saracens; or, as it is otherwiſe defined, a ſovereign dignity among the Mahometans, veſted with abſolute authority in all matters relating both to religion and policy. In the Arabic it ſignifies *ſucceſſor* or *vicar*; the caliphs bearing the ſame relation to Mahomet that the popes pretend they do to Jeſus Chriſt or St Peter. It is at this day one of the Grand Signior's titles, as ſucceſſor of Mahomet; and of the Sophi of Perſia, as ſucceſſor of Ali. One of the chief functions of the caliph, in quality of imam or chief prieſt of Muſſulmaniſm, was to begin the public prayers every Friday in the chief moſque, and to deliver the *khothbah* or ſermon. In after-times, they had aſſiſtants for this latter office; but the former the caliphs always performed in perſon. The caliph was alſo obliged to lead the pilgrims to Mecca in perſon, and to march at the head of the armies of his empire. He granted inveſtiture to princes; and ſent ſwords, ſtandards, gowns, and the like, as preſents to princes of the Mahometan religion; who, though they had thrown off the yoke of the caliphate, nevertheleſs held of it as vaſſals. The caliphs uſually went to the moſque mounted on mules; and the ſultans ſelgiucides, though maſters of Bagdad, held their ſtirrups, and led their mule by the bridle ſome diſtance on foot, till ſuch time as the caliphs gave them the ſign to mount on horſeback. At one of the windows of the caliph's palace, there always hung a piece of black velvet 20 cubits long, which reached to the ground, and was called the *caliph's ſleeve*; which the grandees of his court never failed to kiſs every day, with great reſpect. After the deſtruction of the caliphate by Hulaku, the Mahometan princes appointed a particular officer, in their reſpective dominions, who ſuſtains the ſacred authority of caliph. In Turky, he goes under the denomination of *mufti*, and in Perſia under that of *ſadre*.

Caliphate || Calista.

CALIPHATE, the office or dignity of caliph: See the preceding article. The ſucceſſion of caliphs continued from the death of Mahomet till the 655th year of the Hegira, when the city of Bagdad was taken by the Tartars. After this, however, there were perſons who claimed the caliphate, as pretending to be of the family of the Abaſſides, and to whom the ſultans of Egypt rendered great honours at Cairn, as the true ſucceſſors of Mahomet: but this honour was merely titular, and the rights allowed them only in matters relating to religion; and though they bore the ſovereign title of *caliphs*, they were nevertheleſs ſubjects and dependents of the ſultans. In the year of the Hegira 361, a kind of caliphate was erected by the Fatemites in Africa, and laſted till it was ſuppreſſed by Saladdin. Hiſtorians alſo ſpeak of a third caliphate in Gemen or Arabia Felix, erected by ſome princes of the family of the Jobites. The emperors of Morocco aſſume the title of *grand cherifs*; and pretend to be the true caliphs, or ſucceſſors of Mahomet, though under another name.

CALIPPIC PERIOD, in chronology, a ſeries of ſeventy-ſix years, perpetually recurring; which elapſed the middle of the new and full moons, as its inventor Calippus, an Athenian, imagined, return to the ſame day of the ſolar year. Meton, an hundred years before, had invented the period, or cycle, of nineteen years; aſſuming the quantity of the ſolar year 365 *d.* 6 *h.* 18′ 56″ 50‴ 31⁴ 34⁵; and the lunar month, 29 *d.* 12 *h.* 45′ 47″ 26‴ 48⁴ 30⁵: but Calippus, conſidering that the Metonic quantity of the ſolar year was not exact, multiplied Meton's period by 4, and thence aroſe a period of 76 years, called the *Calippic*. The Calippic period, therefore, contains 2,7759 days: and ſince the lunar cycle contains 235 lunations, and the *Calippic period* is quadruple of this, it contains 940 lunations. This period began in the third year of the 112th Olympiad, or the 4384th of the Julian period. It is demonſtrated, however, that the Calippic period itſelf is not accurate; that it does not bring the new and full moons preciſely to their places: 8 *h.* 5′ 52″ 60‴, being the exceſs of 940 lunations above 76 ſolar years; but brings them too late, by a whole day in 225 years.

CALISTA, in fabulous hiſtory, the daughter of Lycaon king of Arcadia, and one of the nymphs of

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Calix ‖ Call.

Diana. Being beloved by Jupiter, that god aſſumed the form of the goddeſs of chaſtity, by which means he debauched her: but her diſgrace being revealed, as ſhe was bathing with her patroneſs, the incenſed deity turned her and the ſon with which ſhe was pregnant into bears; when Jupiter, in compaſſion to her ſufferings, took them up into the heavens, and made them the conſtellations Urſa Major and Urſa Minor

CALIX. See CALYX.

CALIXTINS, a name given to thoſe, among the Lutherans, who follow the ſentiments of George Calixtus, a celebrated divine, and profeſſor at Helmſtadt, in the duchy of Brunſwick, who died in 1656: he oppoſed the opinion of St Auguſtin, on predeſtination, grace, and free-will, and endeavoured to form an union among the various members of the Romiſh, Lutheran, and reformed churches; or, rather, to join them in the bonds of mutual forbearance and charity.

CALIXTINS alſo denote a ſect in Bohemia, derived from the Huſſites, about the middle of the 15th century, who aſſerted the uſe of the cup, as eſſential to the euchariſt. And hence their name; which is formed from the Latin *calix*, a cup.

The Calixtins are not ranked by Romaniſts in the liſt of heretics, ſince in the main they ſtill adhered to the doctrine of Rome. The reformation they aimed at terminated in the four following articles. 1. In reſtoring the cup to the laity, 2. In ſubjecting the criminal clerks to the puniſhment of the civil magiſtrate. 3. In ſtripping the clergy of their lands, lordſhips, and all temporal juriſdiction. 4. In granting liberty to all capable prieſts to preach the word of God.

CALKA, a kingdom of Tartary, in Aſia, to the eaſt of Siberia.

CALKING. See CAULKING.

CALKINS, the prominent parts at the extremities of a horſe-ſhoe, bent downwards, and forged to a ſort of point.

Calkins are apt to make horſes trip; they alſo occaſion bleymes, and ruin the back ſinews. If faſhioned in form of a hare's ear, and the horn of a horſe's heel be pared a little low, they do little damage; whereas, the great ſquare calkins quite ſpoil the foot.

Calkins are either ſingle or double, that is, at one end of the ſhoe, or at both: theſe laſt are deemed leſs hurtful, as the horſes can tread more even.

CALL, among hunters, a leſſon blown upon the horn, to comfort the hounds.

CALL, an Engliſh name for the mineral called Tungſten or Wolfram by the Germans.

CALL, among ſailors, a ſort of whiſtle or pipe, of ſilver or braſs, uſed by the boatſwain and his mates to ſummon the ſailors to their duty, and direct them in the different employments of the ſhip. As the call can be ſounded to various ſtrains, each of them is appropriated to ſome particular exerciſe; ſuch as hoiſting, heaving, lowering, veering away, belaying, letting go a tackle, &c. The act of winding this inſtrument is called piping, which is as attentively obſerved by ſailors as the beat of the drum to march, retreat, rally, charge, &c. is obeyed by ſoldiers.

CALL, among fowlers, the noiſe or cry of a bird, eſpecially to its young, or to its mate in coupling-time. One method of catching partridges is by the natural call of a hen trained for the purpoſe, which drawing the cocks to her, they are entangled in a net. Different birds require different ſorts of calls; but they are moſt of them compoſed of a pipe or reed, with a little leathern bag or purſe, ſomewhat in form of a bellows; which, by the motion given thereto, yields a noiſe like that of the ſpecies of bird to be taken. The call for partridges is formed like a boat bored through, and fitted with a pipe or ſwan's quill, &c. to be blown with the mouth, to make the noiſe of the cock partridge, which is very different from the call of the hen. Calls for quails, &c. are made of a leathern purſe in ſhape like a pear, ſtuffed with horſe-hair, and fitted at the end with the bone of a cat's, hare's, or coney's leg, formed like a flageolet. They are play'd, by ſqueezing the purſe in the palm of the hand, at the ſame time ſtriking on the flageolet part with the thumb, to counterfeit the call of the hen-quail.

Call ‖ Calla.

CALL of the Houſe. See CALLING.

CALLA, WAKE-ROBIN, or *Ethiopian Arum*: A genus of the polyandria order, belonging to the gynandria claſs of plants; and in the natural method ranking under the 2d order, *Piperitæ*. The ſpatha is plain; the ſpadix covered with florets; there is no calyx; no petals; and the berries are monoſpermous. Of this there is but one ſpecies. It hath thick, fleſhy, tuberous roots, which are covered with a thin brown ſkin, and ſtrike down many ſtrong fleſhy fibres into the ground. The leaves have footſtalks more than a foot long, which are green and ſucculent. The leaves are ſhaped like the point of an arrow; they are eight or nine inches in length, ending in a ſharp point, which turns backward; between the leaves ariſe the footſtalk of the flower, which is thick, ſmooth, of the ſame colour as the leaves, riſes above them, and is terminated by a ſingle flower, ſhaped like thoſe of the arum, the hood or ſpatha being twiſted at bottom, but ſpreads open at the top, and is of a pure white colour. When the flowers fade, they are ſucceeded by roundiſh fleſhy berries, compreſſed on two ſides, each containing two or three ſeeds. This plant grows naturally at the Cape of Good Hope. It propagates very faſt by offsets, which ſhould be taken off in the latter end of Auguſt, at which time the old leaves decay; for at this time the roots are in their moſt inactive ſtate. They are ſo hardy as to live without any cover in mild winters, if planted in a warm border and dry ſoil; but, with a little ſhelter in hard froſt, they may be preſerved in full growth very well.

CALLA-Sufung, a town of Aſia, in the iſland of Bouton in the Eaſt Indies. It is ſeated about a mile from the ſea, on the top of a ſmall hill ſurrounded with cocoa nut-trees. See BOUTON.

CALLAO, a ſtrong town of South America, in Peru. It is the port of Lima, from which it is diſtant about five miles. The town is built on a low flat point of land on the ſea-ſhore. It is fortified; but the fortifications were much damaged by the laſt great earthquake, and have not ſince been repaired. The town is not above nine or ten feet above the level of high-water mark; but the tide does not commonly riſe or fall above five feet. The ſtreets are drawn in a line; but are full of duſt, which is very troubleſome. In a ſquare near the ſea-ſide are the governor's houſe, the viceroy's palace, the pariſh-church, and a battery of three pieces of cannon. On the north ſide are the

ware-

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Calle
Calligraphus.

warehouſes for the merchandiſe brought from Chili, Mexico, and other parts of Peru. The other churches are built with reeds, and covered with timber or clay, but they look tolerably neat. There are five monaſteries and an hoſpital, though the number of families does not exceed 400. The trade of Callao is conſiderable. From Chili they bring cordage, leather, tallow, dried fiſh, and corn; from Chiloe, cedar-planks, woollen manufactures, and carpets; from Peru, ſugars, wines, brandy, maſts, cordage, timber fur ſhipping, cacao, tobacco, and molaſſes; from Mexico, pitch, tar, woods for dyeing, ſulphur, balſam of Peru both white and brown, as well as commodities from China. At the port of Callao the watering is eaſy, but the wood is a mile or two diſtant. Earthquakes are very frequent in theſe parts, which have done vaſt miſchief to Lima and Callao. W. Long. 76. 15. S. Lat. 12. 29.

CALLE (anc. geog.), a town of Hither Spain, ſituated on an eminence which hangs over the river Durius; whoſe port was at the mouth of the river. Now *Porto*, *Oporto*, or *Port a Port*.

CALLEN, a town of Ireland, in the county of Kilkenny and province of Leinſter, about ten miles ſouth-weſt of Kilkenny. W. Long. 7. 22. N. Lat. 52. 25.

CALLICARPA. See JOHNSONIA.

CALLICO, in commerce, a ſort of cloth reſembling linens made of cotton. The name is taken from that of Callicut, a city on the coſt of Malabar, being the firſt place at which the Portugueſe landed when they diſcovered the India trade. The Spaniards ſtill call it *callico*.

Callicoes are of different kinds, plain, printed, painted, ſtained, dyed, chints, muſlins, and the like, all included under the general denomination of *callicoes*. Some of them are painted with various flowers of different colours: others are not ſtained, but have a ſtripe of gold and ſilver quite through the piece, and at each end is fixed a tiſſue of gold, ſilver, and ſilk, intermixed with flowers. The printing of callicoes was firſt ſet on foot in London about the year 1676.

CALLICRATES, an ancient ſculptor, who engraved ſome of Homer's verſes on a grain of millet, made an ivory chariot that might be concealed under the wing of a fly, and an ant of ivory in which all the members were diſtinct: but Ælian juſtly blames him for exerting his genius and talents in things ſo uſeleſs, and at the ſame time ſo difficult. He flouriſhed about the year 472 before Chriſt.

CALLIGONUM, in botany: A genus of the digynia order belonging to the polyandria claſs of plants; and in the natural method ranking under the 12th order, *Holoraceæ*. The calyx is pentaphyllous, without petals or ſtyles; the fruit hiſpid and monoſpermous. There is but one ſpecies, which is found on Mount Ararat.

CALLIGRAPHUS anciently denoted a copyiſt, or ſcrivener, who tranſcribed fair, and at length, what the notaries had taken down in notes or minutes. The word is compounded of καλλος, *beauty*, and γραφω, *I write*. The minutes of acts, &c. were always taken in a kind of cypher, or ſhort-hand; ſuch as the notes of Tyro in Gruter: by which means the notaries, as the Latins called them, or the σημιογραφοι and ταχυγραφοι, as the Greeks called them, were enabled to keep pace with a ſpeaker or perſon who dictated. Theſe notes, being underſtood by few, were copied over fair, and at length, by perſons who had a good hand, for ſale, &c. Theſe perſons were called *calligraphi*; a name frequently met with in the ancient writers.

Calligraphy || Callionymus.

CALLIGRAPHY, the art of fair writing. Callicrates is ſaid to have written an elegant diſtich on a ſeſamum ſeed. Junius ſpeaks of a perſon, as very extraordinary, who wrote the apoſtles creed, and beginning of St John's Goſpel, in the compaſs of a farthing. What would he have ſaid of our famous Peter Bale, who in 1575 wrote the Lord's prayer, creed, ten commandments, and two ſhort prayers in Latin, with his own name, motto, day of the month, year of the Lord, and reign of the queen, in the compaſs of a ſingle penny, incloſed in a ring and border of gold, and covered with a cryſtal, all ſo accurately wrought as to be very legible?

CALLIMACHUS, a celebrated architect, painter, and ſculptor, born at Corinth, having ſeen by accident a veſſel about which the plant called *acanthus* had raiſed its leaves, conceived the idea of forming the Corinthian capital. (See ACANTHUS, and Plate XXXIV. fig. 4.) The ancients aſſure us, that he worked in marble with wonderful delicacy. He flouriſhed about 540 B. C.

CALLIMACHUS, a celebrated Greek poet, native of Cyrene in Libya, flouriſhed under Ptolemy Philadelphus and Ptolemy Evergetes kings of Egypt, about 280 years before Chriſt. He paſſed, according to Quintilian, for the prince of the Greek elegiac poets. His ſtyle is elegant, delicate, and nervous. He wrote a great number of ſmall poems, of which we have only ſome hymns and epigrams remaining. Catullus has cloſely imitated him, and tranſlated into Latin verſe his ſmall poem on the locks of Berenice. Callimachus was alſo a good grammarian and a learned critic. There is an edition of his remains, by Meſſ. le Fevre, quarto; and another in two volumes octavo, with notes by Spanheim, Grævius, Bently, &c.

CALLING *the* HOUSE, in the Britiſh parliament, is the calling over the members names, every one anſwering to his own, and going out of the houſe, in the order in which he is called: this they do in order to diſcover whether there be any perſons there not returned by the clerk of the crown, or if any member be abſent without leave of the houſe.

CALLINICUS of Heliopolis, inventor of a compoſition to burn in the water, called the *Greek*, and ſince *Wild*, *Fire*. See *Grecian* FIRE.

CALLINUS of Epheſus, a very ancient Greek poet, inventor of elegiac verſe; ſome ſpecimens of which are to be found in the collection of Stobeus. He flouriſhed about 776 years before Chriſt.

CALLIONYMUS, the DRAGONET, in ichthyology, a genus of fiſhes belonging to the order of jugularies. The upper lip is doubled up; the eyes are very near each other; the membrane of the gills has ſix radii; the operculum is ſhut; the body is naked; and the belly-fins are at a great diſtance from each other. There are three ſpecies of callionymus, viz. 1. The lyra, with the firſt bone of the back-fin as long as the body of the animal, and a cirrhus at the anus. It is found as far north as Norway and Spitzbergen, and as far

Calliope || Caliſia.

far ſouth as the Mediterranean ſea, and is not unfrequent on the Scarborough coaſts, where it is taken by the hook in 30 or 40 fathoms water. It is often found in the ſtomach of the cod-fiſh. 2. The dracunculus, with the firſt bone of the back-fin ſhorter than its body, which is of a ſpotted yellow colour. It frequents the ſhores of Genoa and Rome. 3. The indicus has a ſmooth head, with longitudinal wrinkles; the lower jaw is a little longer than the upper one; the tongue is obtuſe and emarginated; the apertures of the gills are large: it is of a livid colour, and the anus is in the middle of the body. It is a native of Aſia.

CALLIOPE, in the Pagan mythology, the muſe who preſides over eloquence and heroic poetry. She was thus called from the ſweetneſs of her voice, and was reckoned the firſt of the nine ſiſters. Her diſtinguiſhing office was to record the worthy actions of the living; and accordingly ſhe is repreſented with tablets in her hand.

CALLIPÆDIA, the art of getting or breeding fine and beautiful children. We find divers rules and practices relating to this art, in ancient and modern writers. Among the magi, a ſort of medicine called *ermeſia* was adminiſtered to pregnant women, as a means of producing a beautiful iſſue. Of this kind were the kernels of pine-nuts ground with honey, myrrh, ſaffron, palm-wine, and milk. The Jews are ſaid to have been ſo ſolicitous about the beauty of their children, that care was taken to have ſome very beautiful child placed at the door of the public baths, that the women at going out being ſtruck with his appearance, and retaining the idea, might all have children as fine as he. The Chineſe take ſtill greater care of their breeding women, to prevent uncouth objects of any kind from ſtriking their imagination. Muſicians are employed at night to entertain them with agreeable ſongs and odes, in which are ſet forth all the duties and comforts of a conjugal and domeſtic life; that the infant may receive good impreſſions even before it is born, and not only come forth agreeably formed in body, but well diſpoſed in mind. Callipædia, nevertheleſs, ſeems to have been firſt erected into a juſt art by Claude Quillet de Chinon, a French abbot, who, under the fictitious name of *Calvidius Lætus*, has publiſhed a fine Latin poem in four books, under the title of *Callipædia, ſeu de pulchræ prolis habendæ ratione*; wherein are contained all the precepts of that new art. There is a tranſlation of it into Engliſh verſe by Mr Rowe.

CALLIPOLIS, (anc. geog) the name of ſeveral cities of antiquity, particularly one upon the Helleſpont, next the Propontis, and oppoſite to Lampſacus in Aſia. Now GALLIPOLI.

CALLIPPIC PERIOD. See CALIPPIC.

CALLIRRHOE, (anc. geog), furnamed *Enneacrunos*, from its nine ſprings or channels; a fountain not far from Athens, greatly adorned by Piſiſtratus, where there were ſeveral wells, but this only the running ſpring. Callirrhoe was alſo the name of a very fine ſpring of hot water beyond Jordan near the Dead Sea, into which it empties itſelf.

CALISIA, in botany: A genus of the monogynia order, belonging to the triandria claſs of plants; and in the natural method ranking under the 6th order, *Enſatæ*. The calyx is triphyllous; the petals are three; the antheræ are double; and the capſule is biloculer. There is but one ſpecies, a native of America.

Caliſtea || Callot.

CALLISTEA, in Grecian antiquity, a Leſbian feſtival, wherein the women preſented themſelves in Juno's temple, and the prize was aſſigned to the faireſt. There was another of theſe contentions at the feſtival of Ceres Eleuſinia among the Parrhaſians, and another among the Eleans, where the moſt beautiful man was preſented with a complete ſuit of armour, which he conſecrated to Minerva, to whoſe temple he walked in proceſſion, being accompanied by his friends, who adorned him with ribbons, and crowned him with a garland of myrtle.

CALLISTHENES the philoſopher, diſciple and relation of Ariſtotle, by whoſe deſire he accompanied Alexander the Great in his expeditions; but proving too ſevere a cenſurer of that hero's conduct, he was put by him to the torture (on a ſuſpicion of a treaſonable conſpiracy), and died under it, 328 years before Chriſt.

CALLISTRATUS, an excellent Athenian orator, was baniſhed for having obtained too great an authority in the government. Demoſthenes was ſo ſtruck with the force of his eloquence, and the glory it procured him, that he abandoned Plato, and reſolved from thenceforward to apply himſelf to oratory.

CALLITRICHE, or STAR GRASS, in botany: A genus of the digynia order, belonging to the monandria claſs of plants; and in the natural method ranking under the 12th order, *Holoraceæ*. There is no calyx, but two petals, and the capſule is biloculer and tetraſpermous.

CALLOO, a fortreſs in the Netherlands, in the territory of Waes, on the river Scheld, ſubject to the houſe of Auſtria. The Dutch were defeated here by the Spaniards in 1638. E. Long. 4. 10. N. Lat. 51. 15.

CALLOSUM CORPUS, in anatomy, a whitiſh hard ſubſtance, joining the two hemiſpheres of the brain, and appearing in view when the two hemiſpheres are drawn back. See ANATOMY, N° 132.

CALLOT (James), a celebrated engraver born at Nancy in 1593. In his youth he travelled to Rome to learn deſigning and engraving; and from thence went to Florence, where the grand duke took him into his ſervice. After the death of that prince, Callot returned to his native country; when he was very favourably received by Henry duke of Lorrain, who ſettled a conſiderable penſion upon him. His reputation being ſoon after ſpread all over Europe, the infanta of the Netherlands drew him to Bruſſels, where he engraved the ſiege of Breda. Louis XIII. made him deſign the ſiege of Rochelle, and that of the iſle of Rhe. The French king, having taken Nancy in 1631, made Callot the propoſal of repreſenting that new conqueſt, as he had already done the taking of Rochelle: but Callot begged to be excuſed; and ſome courtiers reſolving to oblige him to do it, he anſwered, that he would ſooner cut off his thumb than do any thing againſt the honour of his prince and country. This excuſe the king accepted; and ſaid, that the duke of Lorrain was happy in having ſuch faithful and affectionate ſubjects. Callot followed his buſineſs ſo cloſely, that, though he died at 43 years of age, he is ſaid to have left of his

Callot, Callus.

own execution about 1500 pieces. The following are a few of the principal. 1. The *murder of the innocents*, a ſmall oval plate, engraved at Florence. Callot engraved the ſame ſubject at Nancy, with ſome difference in the figures on the back-ground. The former is the moſt rare: a fine impreſſion of it is very difficult to be found. 2. The *marriage of Cana in Galilee*, from Paolo Veroneſe, a middling-ſized plate lengthwiſe. 3. The *paſſion of Chriſt*, on twelve very ſmall upright plates: firſt impreſſions very ſcarce. 4. *St John in the iſland of Palma*, a ſmall plate, nearly ſquare. 5. The *temptation of St Anthony*, a middling-ſized plate, lengthwiſe. He alſo engraved the ſame ſubject larger; which, though not the beſt, is notwithſtanding the ſcarceſt print. There is a conſiderable difference in the treatment of the ſubject in the two prints. 6. The *puniſhments*, wherein is ſeen the execution of ſeveral criminals. The marks of the beſt impreſſions of this plate are, a ſmall ſquare tower which appears above the houſes, towards the left, and a very ſmall image of the Virgin placed in an angle of the wall, near the middle of the print. 7. The *miſeries of war*, eighteen ſmall plates, lengthwiſe. There is another ſet on the ſame ſubject, conſiſting of ſeven plates leſs than the former. 8. The *great fair of Florence*, ſo called becauſe it was engraved at Florence. As ſeveral parts of this plate were not equally bitten by the aquafortis, it is difficult to meet with a fine impreſſion. Callot, on his return to Nancy, re-engraved this plate without any alteration. The copy, however, is by no means equal to the original. The firſt is diſtinguiſhed from the ſecond by the words *in Firenza*, which appear below at the right hand corner of the plate. The ſecond has theſe words in the ſame place, *Fe Florentiæ, & excudit Nancei*. There is alſo a large copy of this print, reverſed, publiſhed by Savery; but the difference is eaſily diſtinguiſhed between it and the true print. 9. The *little fair*, otherwiſe called the *players at bowls*; where alſo ſome peaſants are repreſented dancing. This is one of the ſcarceſt of Callot's prints; and it is very difficult to meet with a fine impreſſion of it, for the diſtances and other parts of the plate failed in the biting it with the aquafortis. 10. The *tilting, or the new ſtreet at Nancy*, a middling-ſized plate, lengthwiſe. 11. The *Garden of Nancy*, where young men are playing with a balloon, the ſame. 12. *View of the Port Neuf*, a ſmall plate, lengthwiſe. 13. *View of the Louvre*, the ſame. 14. *Four landſcapes*, ſmall plates, lengthwiſe.

CALLUS, or CALLOSITY, in a general ſenſe, any cutaneous, corneous, or oſſeous hardneſs, whether natural or preternatural; but moſt frequently it means the callus generated about the edges of a fracture, provided by nature to preſerve the fractured bones, or divided parts, in the ſituation in which they are replaced by the ſurgeon. A callus, in this laſt ſenſe, is a ſort of jelly, or liquid viſcous matter, that ſweats out from the ſmall arteries and bony fibres of the divided parts, and fills up the chinks or cavities between them. It firſt appears of a cartilaginous ſubſtance; but at length becomes quite bony, and joins the fractured part ſo firmly together, that the limb will often make greater reſiſtance to any external violence with this part than with thoſe which were never broken.

CALLUS is alſo a hard, denſe, inſenſible knob, riſing on the hands, feet, &c. by much friction and preſſure againſt hard bodies.

Calm || Calmet.

CALM, the ſtate of reſt which appears in the air and ſea when there is no wind ſtirring. A calm is more dreaded by a ſea-faring man than a ſtorm if he has a ſtrong ſhip and ſea-room enough; for under the line exceſſive heat ſometimes produces ſuch dead calms, that ſhips are obliged to ſtay two or three months without being able to ſtir one way or other. Two oppoſite winds will ſometimes make a calm. This is frequently obſerved in the gulph of Mexico, at no great diſtance from the ſhore, where ſome guſt or land-wind will ſo poiſe the general eaſterly wind, as to produce a perfect calm.

Calms are never ſo great on the ocean as on the Mediterranean, by reaſon the flux and reflux of the former keep the water in a continual agitation, even where there is no wind; whereas there being no tides in the latter, the calm is ſometimes ſo dead, that the face of the water is as clear as a looking-glaſs; but ſuch calms are almoſt conſtant preſages of an approaching ſtorm. On the coaſts about Smyrna, a long calm is reputed a prognoſtic of an earthquake.

It is not uncommon for the veſſels to be calmed, or becalmed, as the ſailors expreſs it, in the road of the conſtant Levantine winds, in places where they ride near the land. Thus between the two capes of Cartooche toward the main, and cape Antonio in Cuba, the ſea is narrow, and there is often a calm produced by ſome guſt of a land-wind, that poiſes the Levantine wind, and renders the whole perfectly ſtill for two or three days. In this caſe, the current that runs here is of uſe to the veſſels, if it ſets right; when it ſets eaſterly, a ſhip will have a paſſage in three or four days to the Havannah; but if otherwiſe, it is often a fortnight or three weeks ſail, the ſhip being embayed in the gulf of Mexico.

When the weather is perfectly calm, no wind at all ſtirring, the ſailors try which way the current ſets, by means of a boat which they ſend out, and which will ride at anchor though there is no bottom to be found, as regularly and well as if faſtened by the ſtrongeſt anchor to the bottom. The method is this: they row the boat to a little diſtance from the ſhip, and then throw over their plummet, which is about forty pounds weight; they let this ſink to about two hundred fathom; and then, though it never reaches the bottom, the boat will turn head againſt the current, and ride as firmly as can be.

CALM Latitudes, in ſea language, are ſituated in the Atlantic ocean, between the tropic of Cancer and the latitude of 29° N. or they denote the ſpace that lies between the trade and variable winds, becauſe it is frequently ſubject to calms of long duration.

CALMAR, a ſtrong ſea-port of Sweden, in the province of Smaland, divided into two towns, the old and the new; but of the former there remains only the church and a few houſes. The new town is built a little way from the other, and has large handſome houſes. E. Long. 16. 15. N. Lat. 56. 48.

CALMET (Auguſtine), one of the moſt learned and laborious writers of the 18th century, was born at Meſnil le Horgne, a village in the dioceſe of Toul in France, in the year 1672, and took the habit of the Bene-

Calmucks
C

Benedictines in 1688. Among the many works he published are, 1. A literal expoſition, in French, of all the books in the Old Teſtament, in nine volumes folio. 2. An hiſtorical, critical, chronological, geographical, and literal, dictionary of the Bible, in four vols folio, enriched with a great number of figures of Jewiſh antiquities. 3. A civil and eccleſiaſtical hiſtory of Lorrain, three vols folio. 4. A hiſtory of the Old and New Teſtament, and of the Jews, in two volumes folio, and ſeven vols duodecimo. 5. An univerſal ſacred and profane hiſtory, in ſeveral volumes quarto. He died in 1757.

CALMUCKS. See KALMUCKS.

CALNE, a town of Wiltſhire in England, ſeated on a river of the ſame name. It has a handſome church, and ſends two members to parliament. W. Long. 1. 59. N. Lat. 51. 30.

CALNEH, (anc. geog.) a city in the land of Shinar, built by Nimrod, and the laſt city mentioned (Gen. x. 10.) as belonging to his kingdom. It is believed to be the ſame with Calno mentioned in Iſaiah (x. 9.), and with Canneh in Ezekiel (xxvii. 23.) with ſtill greater variation. It is obſerved, that it muſt have been ſituated in Meſopotamia, ſince theſe prophets join it with Haran, Eden, Aſſyria, and Chilmad, which carried on a trade with Tyre. It is ſaid by the Chaldee interpreters, as alſo by Euſebius and Jerom, to be the ſame with Cteſiphon, ſtanding upon the Tigris, about three miles diſtant from Seleucia, and that for ſome time it was the capital city of the Parthians.

CALOGERI, in church-hiſtory, monks of the Greek church, divided into three degrees: the novices, called *archari*; the ordinary profeſſed, called *mierokesi*; and the more perfect, called *megalochemi*: they are likewiſe divided into cœnobites, anchorets, and recluſes. The cœnobites are employed in reciting their offices from midnight to ſun-ſet; they are obliged to make three genuflexions at the door of the choir, and, returning, to bow to the right and to the left, to their brethren. The anchorites retire from the converſation of the world, and live in hermitages in the neighbourhood of the monaſteries; they cultivate a little ſpot of ground, and never go out but on Sundays and holidays to perform their devotions at the next monaſtery. As for the recluſes, they ſhut themſelves up in grottos and caverns on the tops of mountains, which they never go out of, abandoning themſelves entirely to Providence: they live on the alms ſent them by the neighbouring monaſteries.

CALOMEL, or dulcified ſublimate of mercury. See PHARMACY, *Index*.

CALOPHYLLUM, in botany: A genus of the monogynia order belonging to the polyandria claſs of plants: and in the natural method claſſed under thoſe called *dubiful* by Linnæus. The corolla is tetrapetalous; the calyx tetraphyllous and coloured; the fruit a globoſe plum. There are two ſpecies, both natives of India.

CALOTTE, a cap or coif of hair, ſattin, or other ſtuff; an eccleſiaſtical ornament in moſt Popiſh countries. See CAP.

CALOTTE, in architecture, a round cavity or depreſſure, in form of a cap or cup, lathed and plaſtered, uſed to diminiſh the riſe or elevation of a moderate chapel, cabinet, alcove, &c. which, without ſuch an expedient, would be too high for other pieces of the apartment.

Calpe
Calvary.

CALPE, a mountain of Andaluſia in Spain; at the foot of which, towards the ſea, ſtands the town of Gibraltar. It is half a league in height towards the land, and ſo ſteep that there is no approaching it on that ſide.

CALPURNIUS (Titus), a Latin Sicilian poet, lived under the emperor Carus and his ſon. We have ſeven of his eclogues remaining.

CALQUING, or CALKING, a term uſed in painting, &c. where the back-ſide of any thing is covered over with a black or red colour, and the ſtrokes or lines traced through on a waxed plate, wall, or other matter, by paſſing lightly over each ſtroke of the deſign with a point, which leaves an impreſſion of the colour on the plate or wall.

CALTHA, in botany: A genus of the monogynia order belonging to the polyandria claſs of plants; and in the natural method ranking under the 26th order, *Multiſiliquæ*. There is no calyx; there are five petals; no nectaria; the capſules are many, and polyſpermous. There is only one ſpecies known, which grows naturally in moiſt boggy lands in many parts of England and Scotland. There is a variety, with very double flowers, which for its beauty is preſerved in gardens. It is propagated by parting the roots in autumn. It ſhould be planted in a moiſt ſoil and ſhady ſituation; and as there are often ſuch places in gardens where few other plants will thrive, ſo theſe may be allowed room, and during their ſeaſon of flowering will afford an agreeable variety. The flowers gathered before they expand, and preſerved in ſalted vinegar, are a good ſubſtitute for capers. The juice of the petals, boiled with a little alum, ſtains paper yellow. The remarkable yellowneſs of the butter in ſpring is ſuppoſed to be cauſed by this plant: but cows will not eat it, unleſs compelled by extreme hunger; and then, Boerhaave ſays, it occaſions ſuch an inflammation, that they generally die. Upon May-day, the country people ſtrew the flowers upon the pavement before their doors. Goats and ſheep eat this plant; horſes, cows, and ſwine, refuſe it.

CALTROP, in botany. See TRIBULUS.

CALTROP, in military affairs, an inſtrument with four iron points, diſpoſed in a triangular form, ſo that three of them are always on the ground, and the fourth in the air. They are ſcattered over the ground where the enemy's cavalry is to paſs, in order to embarraſs them.

CALVARIA, in anatomy, the hairy ſcalp or upper part of the head, which, either by diſeaſe or old age, grows bald firſt.

CALVART (Denis), a celebrated painter, was born at Antwerp in 1552; and had for his maſters Proſpero Fontana and Lorenzo Sabbatini. He opened a ſchool at Bologna, which became celebrated; and from which proceeded Guido, Albani, and other great maſters. Calvart was well ſkilled in architecture, perſpective, and anatomy, which he conſidered as neceſſary to a painter, and taught them to his pupils. His principal works are at Bologna, Rome, and Reggio. He died at Bologna in 1619.

CALVARY, a term uſed in Catholic countries for

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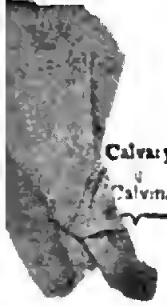

Calvary a kind of chapel of devotion raiſed on a hillock near a city, in memory of the place where Jeſus Chriſt was crucified near the city of Jeruſalem. The word comes from the Latin *calvarium*; and that from *calvus*, bald; in regard the top of that hillock was bare and deſtitute of verdure: which is alſo ſignified by the Hebrew word *golgotha*. Such is the Calvary of St Valerian near Paris; which is accompanied with ſeveral little chapels, in each of which is repreſented in ſculpture one of the myſteries of the paſſion.

Calvary, in heraldry, a croſs ſo called, becauſe it reſembles the croſs on which our Saviour ſuffered. It is always ſet upon ſteps.

CALVERT (George), afterwards lord Baltimore, was born at Kipling in Yorkſhire about the year 1582, and educated at Oxford, where he took the degree of bachelor of arts, and afterwards travelled. At his return, he was made ſecretary to Sir Robert Cecil: he was afterwards knighted, and in 1618 appointed one of the principal ſecretaries of ſtate. But after he had enjoyed that poſt about five years, he willingly reſigned it; freely owning to his majeſty that he was become a Roman-catholic, ſo that he muſt either be wanting to his truſt, or violate his conſcience in diſcharging his office. This ingenuous confeſſion ſo affected king James, that he continued him privy-counſellor all his reign, and the ſame year created him baron of Baltimore in the kingdom of Ireland. He had before obtained a patent for him and his heirs, for the province of Avalon in Newfoundland: but that being expoſed to the inſults of the French, he abandoned it, and afterwards obtained the grant of a country on the north part of Virginia from Charles I. who called it *Maryland*, in honour of his queen: but he died in April 1632 (aged 50), before the patent was made out. It was, however, filled up to his ſon Cecil Calvert lord Baltimore; and bears date June 20th 1632. It is held from the crown as part of the manor of Windſor, on one very ſingular condition, viz. to preſent two Indian arrows yearly, on Eaſter Tueſday, at the caſtle, where they are kept and ſhown to viſitors.—His lordſhip wrote, 1. A Latin poem on the death of Sir Henry Upton. 2. Speeches in parliament. 3. Various letters of ſtate. 4. The anſwer of Tom Tell-truth. 5. The practice of princes. And, 6. The lamentation of the kirk.

CALVI, a town of the province of Lavoro, in the kingdom of Naples, ſituated near the ſea, about fifteen miles north of the city of Naples. E. Long. 14. 45. N. Lat. 41. 15.

Calvi is alſo the name of a ſea-port in the iſland of Corſica, ſituated on a bay, on the weſt ſide of the iſland, about 40 miles ſouth-weſt of Baſtia. E. Long. 9. 5. N. Lat. 42. 16.

CALVIN (John), the celebrated reformer of the Chriſtian church from Romiſh ſuperſtitions and doctrinal errors, and founder of the ſect ſince called *Calviniſts*, was born in 1509. He was the ſon of a cooper of Noyon in Picardy; and his real name was *Chauvin*, which he choſe to latinize into *Calvinus*, ſtyling himſelf in the title-page to his firſt work (a Commentary on *Seneca de clementia*), "Lucius Calvinus, Civis Romanus;" an early proof of his pride, at about 24 years of age. In 1529, he was rector of Pont l'Eveque; and in 1534 he threw up this benefice, ſeparating himſelf entirely from the Romiſh church. The perſecution againſt the Proteſtants in France (with whom he was now aſſociated) obliged him to retire to Baſle in Switzerland: here he publiſhed his famous Inſtitutes of the Chriſtian religion in 1535. The following year, he was choſen profeſſor of divinity, and one of the miniſters of the church, at Geneva. The next year, viz. 1537, he made all the people ſolemnly ſwear to a body of doctrines; but finding that religion had not yet had any great influence on the morals of the people, he, aſſiſted by other miniſters, declared, that ſince all their admonitions and warnings had proved unſucceſsful, they could not celebrate the holy ſacrament as long as theſe diſorders reigned; he alſo declared, that he could not ſubmit to ſome regulations made by the ſynod of Berne. Upon which the Syndics having ſummoned the people, it was ordered that Calvin and two other miniſters ſhould leave the city within two days. Upon this Calvin retired to Straſburg, where he eſtabliſhed a French church, of which he was the firſt miniſter, and was alſo choſen profeſſor of divinity there. Two years after he was choſen to aſſiſt at the diet appointed by the emperor to meet at Worms and at Ratiſbon in order to appeaſe the troubles occaſioned by the difference of religion. He went with Bucer, and entered into a conference with Melanctoo. The people of Geneva now entreated him to return; to which he conſented, and arrived at Geneva, September 13th 1541. He began with eſtabliſhing a form of eccleſiaſtical diſcipline, and a conſiſtorial juriſdiction, with the power of inflicting all kinds of canonical puniſhments. This was greatly diſliked by many perſons, who imagined that the papal tyranny would ſoon be revived. Calvin, however, aſſerted on all occaſions the rights of his conſiſtory with inflexible ſtrictneſs; and he cauſed Michael Servetus to be burnt at the ſtake for writing againſt the doctrine of the Trinity. But though the rigour of his proceedings ſometimes occaſioned great tumults in the city, yet nothing could ſhake his ſteadineſs and inflexibility. Amongſt all the diſturbances of the commonwealth, he took care of the foreign churches in England, France, Germany, and in Poland; and did more by his pen than his preſence, ſending his advice and inſtructions by letter, and writing a great number of books. This great reformer died on the 27th of May 1564, aged 55. His works were printed together at Amſterdam in 1671, in nine volumes folio: the principal of which are his Inſtitutions, in Latin, the beſt edition of which is that of Robert Stepheos in 1553, in folio; and his Commentaries on the Holy Scriptures.—Calvin is univerſally allowed to have had great talents, an excellent genius, and profound learning. His ſtyle is grave and polite. Independent of his ſpiritual pride, his morals were exemplary; for he was pious, ſober, chaſte, laborious, and diſintereſted. But his memory can never be purified from the ſtain of burning Servetus: it ill became a reformer to adopt the moſt odious practice of the corrupt church of Rome.

Calvin, Calviniſm.

CALVINISM, the doctrine and ſentiments of Calvin and his followers. Calviniſm ſubſiſts in its greateſt purity in the city of Geneva; and from thence it was firſt propagated into Germany, France, the United Provinces, and England. In France it was aboliſhed by the revocation of the edict of Nantz in 1685.

Calviniſm || Calvities.

It has been the prevailing religion in the United Provinces ever ſince the year 1571. The theological ſyſtem of Calvin was adopted, and made the public rule of faith in England, under the reign of Edward VI. and the church of Scotland was modelled by John Knox, the diſciple of Calvin, agreeably to the doctrine, rites, and form of eccleſiaſtical government, eſtabliſhed at Geneva. In England it has declined ſince the time of queen Elizabeth; though it ſtill ſubſiſts, ſome ſay a little allayed, in the articles of the eſtabliſhed church; and in its rigour in Scotland.

The diſtinguiſhing theological tenets of Calviniſm, as the term is now generally applied, reſpect the doctrines of PREDESTINATION, or particular ELECTION and REPROBATION, original SIN, particular REDEMPTION, effectual, or, as ſome have called it, irreſiſtible GRACE in regeneration, JUSTIFICATION by faith, PERSEVERANCE, and the TRINITY. See each of theſe articles.

Beſides the doctrinal part of Calvin's ſyſtem, which, ſo far as it differs from that of other reformers of the ſame period, principally regarded the abſolute decree of God, whereby the future and eternal condition of the human race was determined out of mere ſovereign pleaſure and free-will; it extended likewiſe to the diſcipline and government of the Chriſtian church, the nature of the Euchariſt, and the qualification of thoſe who were intitled to the participation of it. Calvin conſidered every church as a ſeparate and independent body, inveſted with the power of legiſlation for itſelf. He propoſed that it ſhould be governed by preſbyteries and ſynods, compoſed of clergy and laity, without biſhops, or any clerical ſubordination; and maintained, that the province of the civil magiſtrate extended only to its protection and outward accommodation. In order to facilitate an union with the Lutheran church, he acknowledged a real, though ſpiritual, preſence of Chriſt, in the Euchariſt, that true Chriſtians were united to the man Chriſt in this ordinance, and that divine grace was conferred upon them, and ſealed to them, in the celebration of it; and he confined the privilege of communion to pious and regenerate believers. In France the Calviniſts are diſtinguiſhed by the name of *Huguenots*; and, among the common people, by that of *Parpaillots*. In Germany they are confounded with the Lutherans, under the general title *Proteſtants*; only ſometimes diſtinguiſhed by the name *Reformed*.

CALVINISTS, in church-hiſtory, thoſe who follow the opinions of CALVIN. See the two preceding articles.

Crypto-CALVINISTS, a name given to the favourers of Calviniſm in Saxony, on account of their ſecret attachment to the Genevan doctrine and diſcipline. Many of them ſuffered by the decrees of the convocation of Torgaw, held in 1576. The Calviniſts in their progreſs have divided into various branches, or leſſer ſects.

CALVISIUS (Seth), a celebrated German chronologer in the beginning of the 17th century. He wrote *Elenchus calendarii Gregoriani, et duplex calendarii melioris forma*, and other learned works, together with ſome excellent treatiſes on muſic. He died in 1617, aged 61.

CALVITIES, or CALVITIUM, in medicine, baldneſs, or a want of hair, particularly on the ſinciput, occaſioned by the moiſture of the head, which ſhould feed it, being dried up, by ſome diſeaſe, old age, or the immoderate uſe of powder, &c. See ALOPECIA. Calumet.

CALUMET, a ſymbolical inſtrument of great importance among the American Indians.—It is nothing more than a pipe, whoſe bowl is generally made of a ſoft red marble: the tube of a very long reed, ornamented with the wings and feathers of birds. No affair of conſequence is tranſacted without the calumet. It ever appears in meetings of commerce or exchanges; in congreſſes for determining of peace or war; and even in the very fury of a battle. The acceptance of the calumet is a mark of concurrence with the terms propoſed; as the refuſal is a certain mark of rejection. Even in the rage of a conflict this pipe is ſometimes offered; and if accepted, the weapons of deſtruction inſtantly drop from their hands, and a truce enſues. It ſeems the ſacrament of the ſavages; for no compact is ever violated which is confirmed by a whiff from this holy reed. When they treat of war, the pipe and all its ornaments are uſually red, or ſometimes red only on one ſide. The ſize and decorations of the calumet are for the moſt part proportioned to the quality of the perſons to whom they are preſented, and to the importance of the occaſion. The calumet of peace is different from that of war. They make uſe of the former to ſeal their alliances and treaties, to travel with ſafety, and to receive ſtrangers; but of the latter to proclaim war. It conſiſts of a red ſtone, like marble, formed into a cavity reſembling the head of a tobacco pipe, and fixed to a hollow reed. They adorn it with feathers of various colours; and name it the calumet of the ſun, to which luminary they preſent it, in expectation of thereby obtaining a change of weather as often as they deſire. From the winged ornaments of the calumet, and its conciliating uſes, writers compare it to the caduceus of Mercury, which was carried by the caduceators, or meſſengers of peace, with terms to the hoſtile ſtates. It is ſingular, that the moſt remote nations, and the moſt oppoſite in their other cuſtoms and manners, ſhould in ſome things have, as it were, a certain conſent of thought. The Greeks and the Americans had the ſame idea, in the invention of the caduceus of the one, and the calumet of the other.

Dance of the CALUMET, is a ſolemn rite among the Indians on various occaſions. They dare not waſh themſelves in rivers in the beginning of ſummer, nor taſte of the new fruits, without performing it; and the ſame ceremony always confirms a peace or precedes a war. It is performed in the winter-time in their cabins, and in ſummer in the open fields. For this purpoſe they chooſe a ſpot among trees to ſhade them from the heat of the ſun, and lay in the middle a large mat, as a carpet, ſetting upon it the monitor, or god, of the chief of the company. On the right hand of this image they place the calumet, as their great deity, erecting around it a kind of trophy with their arms. Things being thus diſpoſed, and the hour of dancing come, thoſe who are to ſing take the moſt honourable ſeats under the ſhade of the trees. The company is then ranged round, every one, before he ſits down, ſaluting the monitor, which is done by blowing upon

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Calumet || Calybites.

upon it the ſmoke of their tobacco. Each perſon next receives the calumet in rotation, and holding it with both hands, dances to the cadence of the vocal muſic, which is accompanied with the beating of a ſort of drum. During this exerciſe, he gives a ſignal to one of their warriors, who takes a bow, arrow, and axe, from the trophies already mentioned, and fights him; the former defending himſelf with the calumet only, and both of them dancing all the while. This mock engagement being over, he who holds the calumet makes a ſpeech, in which he gives an account of the battles he has fought, and the priſoners he has taken, and then receives a cloak, or ſome other preſent, from the chief of the ball. He then reſigns the calumet to another, who having acted a ſimilar part, delivers it to a third, who afterwards gives it to his neighbour, till at laſt the inſtrument returns to the perſon that began the ceremony, who preſents it to the nation invited to the feaſt, as a mark of their friendſhip, and a confirmation of their alliance, when this is the occaſion of the entertainment.

CALUMNY, the crime of accuſing another falſely, and knowingly ſo, of ſome heinous offence.

Oath of CALUMNY, *Juramentum* (or rather *Jusjurandum*) *Calumniæ*, among civilians and canoniſts, was an oath which both parties in a cauſe were obliged to take; the plaintiff that he did not bring his charge, and the defendant that he did not deny it, with a deſign to abuſe each other, but becauſe they believed their cauſe was juſt and good; that they would not deny the truth, nor create unneceſſary delays, nor offer the judge or evidence any gifts or bribes. If the plaintiff refuſed this oath, the complaint or libel was diſmiſſed; if the defendant, it was taken *pro confeſſo*. This cuſtom was taken from the ancient athletæ; who, before they engaged, were to ſwear that they had no malice, nor would uſe any unfair means for overcoming each other. The *juramentum calumniæ* is much diſuſed, as a great occaſion of perjury. Anciently the advocates and proctors alſo took this oath; but of late it is diſpenſed with, and thought ſufficient that they take it once for all at their firſt admiſſion to practice. See alſo LAW, Part III. n° clxxxiv. 7.

CALVUS (Cornelius Licinius), a celebrated Roman orator, was the friend of Catullus; and flouriſhed 64 B. C. Catullus, Ovid, and Horace, ſpeak of him.

CALX properly ſignifies *lime*, but is alſo uſed by chemiſts and phyſicians for a fine powder remaining after the calcination or corroſion of metals and other mineral ſubſtances. All metallic calces, at leaſt all thoſe made by fire, are found to weigh more than the metal from which they were originally produced. See the article FIRE.

Calx Nativa, in natural hiſtory, a kind of marly earth, of a dead whitiſh colour, which, if thrown into water, makes a conſiderable bubbling and hiſſing noiſe, and has, without previous burning, the quality of making a cement like lime or plaſter of Paris.

Calx Viva, or *Quick-lime*, that whereon no water has been caſt, in contradiſtinction to lime which has been ſlaked by pouring water on it.

CALYBITES, the inhabitant of a cottage, an appellation given to divers ſaints on account of their long reſidence in ſome hut, by way of mortification. The word is formed from καλύπτω, *tego*, *I cover*; whence καλύβη, *a little cot*.—The Romiſh church commemorates St John the calybites on the 15th of December.

Calycanthemæ, Calycanthus.

CALYCANTHEMÆ, in botany, an order of plants in the *Fragmenta methodi naturalis* of Linnæus, in which are the following genera, viz. epilobium, œnothera, juſſiæa, ludvigia, oldenlandia, iſnarda, &c. See BOTANY, ſect. vi. 17.

CALYCANTHUS, in botany: A genus of the polygynia order, belonging to the icoſandria claſs of plants; and in the natural method claſſed with thoſe of which the order is doubtful. The calyx is monophyllous, urceolate, or blown up; ſquarroſe, or frizzled with ſmall coloured leaves, the corolla conſiſting of the leaves on the calyx; the ſtyles are numerous, each with a glandular ſtigma; the ſeeds are many, each with a train, within a ſucculent calyx. There are two ſpecies; namely, 1. The præcox, which is not quite inured to this climate; and, 2. The floridus, a flowering calycanthus, or Carolina allſpice tree, a native of Carolina. It ſeldom grows, at leaſt with us, to more than five feet high. It divides into many branches irregularly near the ground. They are of a brown colour, and being bruiſed emit a moſt agreeable odour. The leaves that garniſh this delightful aromatic are of an oval figure, pointed: They are near four inches long, and are at leaſt two and a half broad, and are placed oppoſite by pairs on the branches. At the end of theſe ſtand the flowers, of a kind of chocolate-purple colour, and which are poſſeſſed of the oppoſite qualities of the bark on the branches. They ſtand ſingle on their ſhort ſuoſtalks, come out in May and June, and are ſucceeded by ripe ſeeds in England. The propagation of this ſhrub is not very difficult; though more than common care muſt be taken, after ſmall plants are obtained, to preſerve them till they are of a ſize to be ventured abroad. The laſt year's ſhoots, if laid in the ground, the bark eſpecially being a little bruiſed, will ſtrike root within the compaſs of twelve months, particularly if the layers are ſhaded, and now and then watered in the ſummer's drought. In the ſpring they ſhould be taken off, and planted in pots; and if theſe are afforded a ſmall degree of heat in a bed, they will ſtrike ſo much the ſooner and ſtronger. After they have been in this bed a month or ſix weeks, they ſhould be taken out. In the heat of the ſummer they ſhould be placed in the ſhade; and if the pots are plunged into the natural ground, it will be ſo much the better. At the approach of the ſucceeding winter's bad weather, the pots ſhould be removed into the green-houſe, or ſome ſhelter, and in the ſpring may reſume their old ſtations: and this ſhould be repeated till they are of a proper ſize and ſtrength to be planted out to ſtand. If the pots in which they were firſt planted were ſmall, they may be ſhifted into larger a ſpring or two after; and, when they have got to be pretty ſtrong plants, they may be turned out, mould and all, into the places where they are to remain. By this care of potting them, and houſing them during the ſevere weather in winter, the young crop will be preſerved; otherwiſe, if they were planted immediately abroad, the firſt hard froſt the enſuing winter would deſtroy them all: Tanner's bark about their roots will be the moſt proper

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Calycifloræ || Camaieu.

ſecurity; as they are at beſt, when full grown, but tender plants, and muſt have the warmeſt ſituation and the drieſt ſoil.

CALYCIFLORÆ, in botany, the 16th order in Linnæus's *Fragmenta methodi naturalis*, conſiſting of plants which, as the title imports, have the ſtamina (the flower) inſerted into the calyx. This order contains the following genera, viz. eleagnus, hippophae, elyris, and trophis. See BOTANY, ſect. vi. 16.

CALYCISTÆ (from *calyx* the flower-cup), ſyſtematic botaniſts, ſo termed by Linnæus, who have arranged all vegetables from the different ſpecies, ſtructure, and other circumſtances, of the calyx or flower-cup. The only ſyſtems of this kind are the *Character plantarum novus*, a poſthumous work of Magnolius, profeſſor of botany at Montpelier, publiſhed in 1720; and Linnæus's *Methodus calycina*, publiſhed in his *Claſſes plantarum*, at Leyden, in 1738. See BOTANY, p. 425.

CALYDON, (anc. geog.), a town of Æolia, ſituated ſeven miles and a half from the ſea, and divided by the river Evenus: the country was anciently called *Æolis*, from the Æolians its inhabitants. This country was famous for the ſtory of Meleager and the Calydonian boar.

CALYPSO, in fabulous hiſtory, a goddeſs, who was the daughter of Oceanus and Tethys, or, as others ſay, of Atlas. She was queen of the iſland of Ogygia, which from her was called the iſland of *Calypſo*. According to Homer, Ulyſſes ſuffered ſhipwreck on her coaſt, and ſtaid with her ſeveral years.

CALYPTRA, among botaniſts, a thin membranaceous involucrum, uſually of a conic figure, which covers the parts of fructification. The capſules of moſt of the moſſes have calyptræ.

CALYX, among botaniſts, a general term expreſſing the cup of a flower, or that part of a plant which ſurrounds and ſupports the other parts of the flower.

The cups of flowers are very various in their ſtructure, and on that account diſtinguiſhed by ſeveral names, as *perianthium*, *involucrum*, *ſpatha*, *gluma*, &c. See BOTANY, p. 439.

CALZADA, a town of Old Caſtile in Spain, ſeated on the river Leglera. W. Long. 2. 47. N. Lat. 42. 12.

CAMÆA, in natural hiſtory, a genus of the ſemipellucid gems approaching to the onyx ſtructure, being compoſed of zones, and formed on a cryſtalline baſis; but having their zones very broad and thick, and laid alternately one on another, with no common matter between; uſually leſs tranſparent, and more debaſed with earth, than the onyxes.

1. One ſpecies of the camæa is the dull-looking onyx, with broad black and white zones; and is the camæa of the moderns, and the Arabian onyx. This ſpecies is found in Egypt, Arabia, Perſia, and the Eaſt Indies. 2. Another ſpecies of the camæa is the dull broad zoned, green and white camæa, or the jaſpicameo of the Italians: it is found in the Eaſt Indies, and in ſome parts of America. 3. The third is the hard camæa, with broad white and cheſnut coloured veins. 4. The hard camæa, with bluiſh, white, and fleſh-coloured broad veins, being the ſardonyx of Pliny's time, only brought from the Eaſt Indies.

CAMAIEU, or CAMAYEU, a word uſed to expreſs a peculiar ſort of onyx: alſo by ſome to expreſs a ſtone, whereon are found various figures, and repreſentations of landſcapes, &c. formed by a kind of *luſus naturæ*; ſo as to exhibit pictures without painting. The word comes from *camehuia*, a name the Orientals give to the onyx, when they find; in preparing it, another colour; as who ſhould ſay, *a ſecond ſtone*. It is of theſe *camaieux* Pliny is to be underſtood when he ſpeaks of the manifold picture of gems, and the party-coloured ſpots of precious ſtones: *Gemmarum pictura tam multiplex, lapidumque tam diſcolores macule*.

Camaieu || Camarana.

CAMAIEU is alſo applied by others to thoſe precious ſtones, as onyxes, cornelians, and agates, whereon the lapidaries employ their art to aid nature, and perfect thoſe repreſentations. See CAMÆA.

CAMAIEU is alſo frequently applied to any kind of gem, whereon figures may be engraven either indentedly or in relievo. In this ſenſe the lapidaries of Paris are called in their ſtatutes, *cutters of camayeux*.

A ſociety of learned men at Florence undertook to procure all the *cameos* or *camayeux*, and intaglios in the great duke's gallery to be engraven; and began to draw the heads of divers emperors in *cameos*.

CAMAIEU is alſo uſed for a painting, wherein there is only one colour; and where the lights and ſhadows are of gold, wrought on a golden or azure ground. When the ground is yellow, the French call it *cirage*; when grey, *griſſaile*. This kind of work is chiefly uſed to repreſent baſſo relievos: the Greeks call pieces of this ſort μονοχρωματα.

CAMALDULIANS, CAMALDUNIANS, or CAMALDOLITES, an order of religious, founded by Romuald, an Italian fanatic, in 1023, in the horrible deſart of Camaldoli, otherwiſe called Campo-Malduli, ſituate in the ſtate of Florence, on the Apennines. Their rule is that of St Benedict; and their houſes, by the ſtatutes, are never to be leſs than five leagues from cities. The *Camaldulians* have not borne that title from the beginning of their order; till the cloſe of the eleventh century they were called *Romualdins*, from the name of their founder. Till that time, *Camaldulian* was a particular name for thoſe of the deſart Camaldoli; and D. Grandi obſerves, was not given to the whole order, in regard it was in this monaſtery that the order commenced, but becauſe the regulation was beſt maintained here.

Guido Grandi, mathematician of the great duke of Tuſcany, and a monk of this order, has publiſhed *Camaldulian* Diſſertations, on the origin and eſtabliſhment of it.

The *Camaldolites* were diſtinguiſhed into two claſſes, of which the one were CORNOAITES, and the other EREMITES.

CAMALODUNUM (anc. geog.), a town of the Trinobantes, the firſt Roman colony in Britain, of veterans, under the emperor. From the Itineraries it appears to have ſtood where now Malden ſtands. It continued to be an open place under the Romans; a place of pleaſure rather than ſtrength; yet not unadorned with ſplendid works, as a theatre and a temple of Claudius: which the Britons conſidered as badges of ſlavery, and which gave riſe to ſeveral ſeditions and commotions. It ſtands on a bay of the ſea, at the mouth of the Chelmer, in the county of Eſſex; the modern name is curtailed from the ancient.

CAMARANA, an iſland of Arabia, in the Red Sea, whoſe inhabitants are little and black. It is the beſt

Camaſſei ‖ Cambayes.

beſt of all the iſlands in this ſea, and here they fiſh for coral and pearls. N. Lat. 15. 0.

CAMASSEI, or Camace, (Andrea), painter of hiſtory and landſcape, was born at Bevagna, and at firſt learned the principles of deſign and colouring from Domenichino; but afterwards he ſtudied in the ſchool of Andrea Sacchi, and proved a very great painter. He was employed in St Peter's at Rome, as alſo at John Lateran; and his works are extremely admired, for the ſweetneſs of his colouring, the elegance of his thoughts and deſign, and likewiſe for the delicacy of his pencil. Sandrart laments that the world was deprived of ſo promiſing a genius, in the very bloom of life, when his reputation was daily advancing. He died in 1657. At St John Lateran are to be ſeen, the Battle of Conſtantine and Maxentius; and the Triumph of Conſtantine; which are noble and grand compoſitions; and they afford ſufficient proofs of the happineſs of his invention and the correctneſs of his execution. Alſo at Wilton, the ſeat of the earl of Pembroke, there is a picture of Venus with the Graces, ſaid to be by the hand of Camaſſei.

CAMARCUM, (anc. geog.), the capital of the Nervii, a people of Gallia Belgica, (Antonine, Peutinger); before whoſe time no mention was made of it. Now Cambray, capital of the Cambreſis, in French-Flanders. E. Long. 3. 15. Lat. 50. 15.

CAMARINA, (anc. geog.), a city of Sicily, built by the Syracuſans on an eminence near the ſea, in the ſouth of Sicily, to the weſt of the promontory Pachynum, between two rivers, the Hipparis and Oanus. Of ſo famous a city nothing now remains but its name and ancient walls, a mile and a half in compaſs, with the ſlight remains of houſes: now called *Camarana*.

Camarina Palus, a marſh or lake, near the city Camarina, and from which it took its name. In a time of drought, the ſtench of the lake produced a peſtilence; upon which the inhabitants conſulted the oracle, whether they ſhould not quite drain it. The oracle diſſuaded them: they notwithſtanding drained it, and opened a way for their enemies to come and plunder their city: hence the proverb, *Ne moveas Camarinam*, that is, not to remove one evil to bring on a greater. Now *Lago di Camarana*, ſituate in a beautiful plain, under the very walls of Camarina, and of a triangular form.

CAMAYEU. See Camaieu.

CAMBAIA, or Cambay, a town of Aſia, in India, and in the peninſula on this ſide the Ganges; capital of a province of the ſame name; but more commonly called *Guzarat*. It is ſeated at the bottom of a gulph of the ſame name, on a ſmall river; is a large place with high walls, and has a pretty good trade. The product and manufactures are inferior to few towns in India; for it abounds in corn, cattle, and ſilk; and cornelian and agate ſtones are found in its rivers. The inhabitants are noted for embroidery; and ſome of their quilts have been valued at 40l. It is ſubject to the Great Mogul. E. Long. 72. 15. N. Lat. 22 30.

CAMBAYES, in commerce, cotton cloths made at Bengal, Madras, and ſome other places on the coaſt of Coromandel. They are proper for the trade of Marſeilles, whither the Engliſh at Madras ſend great numbers of them. Many are alſo imported into Holland.

CAMBER, according to our monkiſh hiſtorians, one of the three ſons of Brute, who, upon his father's death, had that part of Britain aſſigned him for his ſhare, called from him *Cambria* now *Wales*. Camber ‖ Camblet.

Camber-Beam, among builders, a piece of timber in an edifice cut archwiſe, or with an obtuſe angle in the middle, commonly uſed in platforms, as church-leads, and on other occaſions where long and ſtrong beams are required.

CAMBERED-decks, among ſhip-builders. The deck or flooring of a ſhip is ſaid to be cambered, or to lie cambering, when it is higher in the middle of the ſhip's length, and droops toward the ſtem and ſtern, or the two ends. Alſo when it lies irregular; a circumſtance which renders the ſhip very unfit for war.

CAMBERT, a French muſician in the 17th century, was at firſt admired for the manner in which he touched the organ, and became ſuperintendant of the muſic to Anne of Auſtria the queen-mother. The abbe Perrin aſſociated him in the privilege he obtained of his majeſty, of ſetting up an opera in 1669. Cambert ſet to muſic two paſtorals, one entitled *Pomona*, the other *Ariadne*, which were the firſt operas given in France. He alſo wrote a piece entitled *The pains and pleaſures of love*. Theſe pieces pleaſed the public; yet, in 1672, Lully obtaining the privilege of the opera, Cambert was obliged to come to England, where he became ſuperintendant of the muſic to king Charles II. and died there in 1677.

CAMBIO, an Italian word which ſignifies *exchange*; commonly uſed at Province, and in ſome other countries, particularly Holland.

CAMBIST, a name given in France to thoſe who trade in notes and bills of exchange. The word cambiſt, though a term of antiquity, is even now a technical word, of ſome uſe among merchants, traders, and bankers. Some derive it from the Latin *cambium*, or rather *cambio*.

CAMBLET, or Chamalet, a ſtuff ſometimes of wool, ſometimes ſilk, and ſometimes hair, eſpecially that of goats, with wool or ſilk: in ſome, the warp is ſilk and wool twiſted together, and the woof hair.

The true or oriental camblet is made of the pure hair of a ſort of goat, frequent about Angora, and which makes the riches of that city, all the inhabitants whereof are employed in the manufacture and commerce of camblets. It is certain we find mentioned in middle-age writers ſtuffs made of camel's hair, under the denominations of *cameletum* and *camelinum*, whence probably the origin of the term; but theſe are repreſented as ſtrangely coarſe, rough, and prickly, and ſeem to have been chiefly uſed among the monks by way of mortification, as the hair-ſhirt of later times.

We have no camblets made in Europe of the goats hair alone; even at Bruſſels, they find it neceſſary to add a mixture of woollen thread.

England, France, Holland, and Flanders, are the chief places of this manufacture. Bruſſels exceeds them all in the beauty and quality of its camblets: thoſe of England are reputed the ſecond.

Figured Camblets, are thoſe of one colour, whereon are ſtamped various figures, flowers, foliage, &c. by means of hot irons, which are a kind of moulds, paſſed together with the ſtuff, under a preſs. Theſe are chiefly

Cambiets ‖ Cambray.

ly brought from Amiens and Flanders: the commerce of theſe was anciently much more conſiderable than at preſent.

Watered-Cambleys, thoſe which, after weaving, receive a certain preparation with water; and are afterwards paſſed under a hot-preſs, which gives them a ſmoothneſs and luſtre.

Waved-Cambleys, are thoſe whereon waves are impreſſed, as on tabbies; by means of a calender, under which they are paſſed and repaſſed ſeveral times.

The manufacturers, &c. of camblets are to take care they do not acquire any falſe and needleſs plaits; it being almoſt impoſſible to get them out again. This is notorious, even to a proverb: we ſay, a perſon is like camblet, he has taken his plait.

CAMBODIA, a kingdom of Aſia, in the Eaſt Indies, bounded on the north by the kingdom of Laos, on the eaſt by Cochin-China and Chiapa, and on the ſouth and weſt by the gulph and kingdom of Siam; divided by a large river called *Mecon*. The capital town is of the ſame name, ſeated on the weſtern ſhore of the ſaid river, about 150 miles north of its mouth. This country is annually overflowed in the rainy ſeaſon, between June and October; and its productions and fruits are much the ſame with thoſe uſually found between the tropics. E. Long. 104. 15. N. Lat. 12. 40.

CAMBODUNUM, (Itinerary); a town of the Brigantes, in Britain; now in ruins, near Almonbury, in York-ſhire. Weſtcheſter, (Talbot.) Alſo a town of Vindelicia, on the Cambus: now Kempten, in Suabia.

CAMBOGIA, in botany: A genus of the monogynia order, belonging to the polyandria claſs of plants; and in the natural method ranking under the 38th order, *Tricoccæ*. The corolla is tetrapetalous; the calyx tetraphyllous; and the fruit is a pome with eight cells, and ſolitary ſeeds. There is but one ſpecies, the gutta, a native of India, which yields the gum-reſin known by the name of *gamboge* in the ſhops. See Gamboge.

CAMBRASINES, in commerce, fine linen made in Egypt, of which there is a conſiderable trade at Cairo, Alexandria, and Roſetta, or Raſchit. They are called *cambraſines* from their reſemblance to cambrics.

CAMBRAY, an archiepiſcopal city, the capital of the Cambreſis, in the Low Countries, ſeated on the Scheld. It is defended by good fortifications, and has a fort on the ſide of the river; and as the land is low on that ſide, they can lay the adjacent parts under water by means of ſluices. Its ditches are large and deep, and thoſe of the citadel are cut into a rock. Clodion became maſter of Cambray in 445. The Danes burnt it afterwards; ſince which time it became a free imperial city. It has been the ſubject of conteſt between the emperors, the kings of France, and the earls of Flanders. Francis I. let it remain neutral during the war with Charles V. but this laſt took poſſeſſion of it in 1543. After this it was given to John of Montluc by Henry III. of France, whom he created prince of Cambray; but the Spaniards took it from Montluc in 1593, which broke his heart. It continued under the dominion of the Houſe of Auſtria till 1677, when the king of France became maſter of it, in whoſe hands it has continued ever ſince.

The buildings of Cambray are tolerably handſome, and the ſtreets fine and ſpacious. The place or ſquare for arms is of an extraordinary largeneſs, and capable of receiving the whole garriſon in order of battle. The cathedral dedicated to the Virgin Mary is one of the fineſt in Europe. The body of the church is very large, and there are rich chapels, the pillars of which are adorned with marble tombs that are of exquiſite workmanſhip, and add greatly to the beauty of the place. There are two galleries, one of which is of copper, finely wrought. The door of the choir is of the ſame metal, and well carved. The ſteeple of this church is very high, and built in the form of a pyramid; and from its top you have a view of the city, which is one of the fineſt and moſt agreeable in the Low Countries. There are nine pariſhes, four abbeys, and ſeveral convents for both ſexes. The citadel is very advantageouſly ſituated on high ground, and commands the whole city. Cambray is one of the moſt opulent and commercial cities in the Low Countries; and makes every year a great number of pieces of cambric, with which the inhabitants drive a great trade. E. Long. 3. 20. N. Lat. 50. 11.

Cambray ‖ Cambridge.

Cambray (M. de Fenelon, archbiſhop of). See Fenelon.

CAMBRESIS, a province of France, in the Netherlands, about 25 miles in length. It is bounded on the north and eaſt by Hainhalt, on the ſouth by Picardy, and on the weſt by Artois. It is a very fertile and populous country; and the inhabitants are induſtrious, active, and ingenious. The trade conſiſts principally in corn, ſheep, very fine wool, and fine linen cloth. Cambray is the capital town.

CAMBRIA, a name for the principality of Wales.

CAMBRIC, in commerce, a ſpecies of linen made of flax, very fine and white; the name of which was originally derived from the city of Cambray, where they were firſt manufactured. They are now made at other places in France.

The manufacture of cambrics hath long ſince proved of extraordinary advantage to France. For many years it appeared that England did not in this article contribute leſs than 200,000 *l.* per annum to the intereſt of France. This proved motive ſufficient to induce the parliament of Great Britain to enact many ſalutary laws to prevent this great loſs of our wealth. See 18 Geo. II. c. 36. and 21 Geo. II. c. 26. See alſo ſtat. 32 Geo. II. c. 32. and 4 Geo. III. c. 37. which regulates the cambric manufactory, not long ſince introduced into Winchelſea in Suſſex; but very ſoon aboliſhed. The cambrics now allowed in this country are manufactured in Scotland and Ireland. Any perſons convicted of wearing, ſelling (except for exportation), or making up for hire any cambric or French lawns, are liable to a penalty of 5*l.* by the two firſt ſtatutes cited above.

CAMBRIDGE, a town of England, and capital of the county of that name. It takes the name of Cambridge from the bridge over the Cam, which divides the town into two parts. Either it or a place in the neighbourhood was ſtyled *Camboritum* in the time of the Romans. It ſuffered much during the wars with the Danes. Here was a caſtle built by William the Conqueror, of which the gatehouſe yet remains, and is now the county goal. By Doomſday-book it appears, that it then had ten wards, containing 387 houſes. In William Rufus's reign it was quite deſtroyed by Roger de Montgomery; but Henry I. beſtowed

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Cambridge

ſtowed many privileges upon it to encourage its reſturation, particularly an exemption from the power of the ſheriff, on condition of its paying yearly into the exchequer 100 merks (equivalent to 1000 pounds now), and from tolls, laſtage, pontage, paſſage, and ſtallage, in all fairs of his dominions. It was afterwards often plundered in the barons wars by the outlaws from the iſle of Ely, till Henry III. ſecured it by a deep ditch. In 1388, Richard II. held a parliament here. In the rebellion of Wat Tyler and Jack Straw againſt that prince, the univerſity records were taken and burnt in the market-place.

The modern town is about one mile long from S. to N. and about half a mile broad in the middle, diminiſhing at the extremities. It has 14 pariſh-churches, of which two are without any towers. It contains above 1220 houſes; but the private buildings are neither elegant or large, owing chiefly to their being held on college or corporation leaſes. It is governed by a mayor, high-ſteward, recorder, 13 aldermen, and 24 common-council-men, a town-clerk, &c. Its chief trade is water carriage from hence to Downham, Lynn, Ely, &c. The Jews being encouraged to ſettle in England by William I. and II. were very populous here for ſeveral generations, and inhabited that ſtreet now called the *Jewry*. They had a ſynagogue, ſince converted to a pariſh church, called from the ſhape of its tower *Round Church*; though others are of opinion, that it was built by the Knights Templars, it bearing a reſemblance to the temple church in London. The market-place is ſituated in the middle of the town, and conſiſts of two ſpacious oblong ſquares united together; at the top of the angle ſtands the ſhire-hall, lately erected at the expence of the county. At the back of the ſhire-hall is the town-hall and gaol. In the market place, fronting the ſhire-hall, is a remarkable handſome ſtone conduit, to which water is conveyed by an aqueduct, which was the benefaction of the celebrated Hobſon, a carrier in the reign of James I. who was a native of this town. A fine road for the benefit of the inhabitants and ſtudents was made a few years ſince for 4 miles, from this town to Gogmagog-hills, purſuant to the will of Mr Wortes. The late Dr Addenbroke alſo left it 4000 l. towards building and furniſhing an hoſpital for the cure of poor diſeaſed people gratis: of which charity the maſter of Catharine-hall is a truſtee; which hoſpital has been erected at the ſouth-eaſt end of the town. At a little diſtance from Benet-college is the botanic garden of 5 acres, and a large houſe for the uſe of the governors and the reſidence of the curator, given to the univerſity by the late Dr Walker, who ſettled an eſtate on it towards its ſupport; to which the late Mr Edward Betham added a very conſiderable benefaction. The town has fairs on June 24. and Aug. 14.

The glory of Cambridge is its univerſity; but when it had its beginning is uncertain. At firſt there was no public proviſion for the accommodation or maintenance of the ſcholars; but afterwards inns began to be erected by pious perſons for their reception, and in the time of Edward I. colleges began to be built and endowed. This univerſity, not inferior to any in Chriſtendom, conſiſts of 12 colleges and 4 halls, which have the ſame privileges as the colleges. The whole body, which is commonly about 1500, enjoys very great privileges granted by ſeveral of our ſovereigns; but it was James I. who impowered it to ſend two members to parliament, as the town had done from the firſt. The univerſity is governed, 1. By a chancellor, who is always ſome nobleman, and may be changed every three years, or continued longer by the tacit conſent of the univerſity. 2. By a high-ſteward, choſen by the ſenate, and holding his place by patent from the univerſity. 3. By a vice-chancellor, who is the head of ſome college or hall, and choſen yearly by the body of the univerſity, the heads of the colleges naming two. 4. By two proctors choſen every year, according to the cycle of colleges and halls; as are two taxors, who with the proctors regulate the weights and meaſures, as clerks of markets. The proctors alſo inſpect the behaviour of the ſcholars, who muſt not be out of their colleges after nine at night. Here are alſo 2 moderators, 2 ſcrutators, a commiſſary, public orator, 2 librarians, a regiſter, a ſchool-keeper, 3 eſquire beadles and a yeoman beadle, 18 profeſſors, and the caput, conſiſting of the vice-chancellor, a doctor of divinity, a doctor of laws, a doctor of phyſic, a regent, and a non regent maſter of arts. Henry VI. granted it the power to print all books of any kind within itſelf, a privilege which Oxford had not. The ſenate-houſe of the univerſity is an elegant building of the Corinthian order, coſt near 16,000 l. building; in which on the north ſide is a fine ſtatue of George I. erected in 1739 at the expence of the late Lord Townſend; oppoſite to this on the ſouth ſide is another of George II. erected in 1765 at the expence of the late Duke of Newcaſtle: at the eaſt end, on each ſide of the entrance, are two others; one, the late duke of Somerſet, after the Vandyke taſte; the other, an Italian emblematical figure of Gloria. This is allowed to be the moſt ſuperb room in England, being 101 feet long, 42 broad, and 32 high; and it has a gallery which can contain 1000 perſons. This building forms the north ſide of a quadrangle, as the ſchools and public library do the weſt, the ſchools being the ground floor, and the library over them ſurrounding a ſmall court. North of the philoſophy ſchool is the repoſitory of Dr Woodward's foſſils, ores, ſhells, &c. The doctor, together with that collection and a part of his library, left a ſum of money to this univerſity for erecting a profeſſorſhip for natural philoſophy, with a proviſion of 150 l. a-year for ever. At the ſouth-eaſt corner of this building is an elegant geometrical ſtone ſtaircaſe which leads to the old library, and conſiſts of 18 claſſes; at the end of which is an elegant ſquare room, in which are depoſited the MSS. and a valuable cabinet of oriental books and curioſities, &c. This room opens to two other rooms, containing 26 large claſſes conſiſting of 30,000 volumes preſented the univerſity by George I. being the entire collection of Dr Moor biſhop of Ely, and purchaſed of the doctor's executors by his majeſty for 6000 guineas; before which his majeſty gave the univerſity 2000 l. to defray the expence of fitting up the apartments and erecting claſſes for their reception; they conſiſt of the firſt editions of the Greek and Latin claſſics and hiſtorians, and the greateſt part of the works of the firſt printers; large collections of prints of the greateſt maſters; and a valuable MS. of the Goſpels and Acts of the Apoſtles on vellum, in Greek and Latin capitals, given the univerſity by Theodore Beza,

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Cambridge. Beza, and ſuppoſed to be as old as any MS. extant. The other part of the library has been rebuilt in an elegant manner, and forms the weſt ſide of the intended quadrangle. The books which are contained in the laſt room are part of the old library augmented with a conſiderable number of the beſt modern books, ſeveral of which are preſents from foreign ſovereigns and eminent men. The ſouth ſide of this quadrangle is deſigned for a building to contain the printing-office, &c. of the univerſity, for which preparations began lately to be made by pulling down the old buildings on the ſpot. St Mary's church forms the eaſt ſide of this quadrangle: here the univerſity have their public ſermons; and the pulpit, which ſtands in the centre of the church and faces the chancel, has no ſounding-board. In a grand gallery over part of the chancel is a ſeat for the chancellor, vice-chancellor, &c. George I. when he gave the books, alſo eſtabliſhed a profeſſor of modern hiſtory and modern languages in this univerſity, with a ſalary of 400l. for himſelf and two perſons under him qualified to inſtruct in that branch 20 ſcholars, to be nominated by the king, each of which is obliged to learn two at leaſt of the languages. A fellowſhip is founded at Magdalen college, appropriated to the gentlemen of Norfolk, and called *the travelling Norfolk fellowſhip*. All the libraries in Cambridge, except that of the king's-college, are lending libraries; and thoſe at Oxford are ſtudying libraries. The different colleges are as follows.

1. St Peter's, the moſt ancient, and the firſt on entering the town from London, conſiſting of two courts, ſeparated by a cloiſter and gallery. The largeſt is 144 feet long, 84 broad. The buildings in this court have been lately repaired in an elegant manner. The leſſer court is divided by the chapel, which is a fine old building 54 feet long, 27 broad, and 27 high. This college was founded 1257. There are three colleges in Oxford which diſpute the antiquity with this. Cambridge and Oxford were univerſities long before they were poſſeſſed of any colleges in their own right, the ſtudents then lodging and boarding with the townſmen, and they then hired hotels for their exerciſes and diſputations. A hotel or hall, now denominated *Pythagoras's ſchool*, ſituated on the weſt ſide of the river, is one of the ancient hotels that remains undemoliſhed, and in which Eraſmus read his firſt Greek lectures in England. 2. Clare-hall, on the bank of the river, over which it has an elegant ſtone-bridge, was founded 1326, conſiſting of one grand court 150 feet long and 111 broad. The front of this building that faces the fields has the appearance of a palace. To this college a new chapel has been added. 3. Pembroke hall is near St Peter's college, and was founded in 1343, conſiſts of two courts. It has an elegant chapel built by Sir Chriſt. Wren. 4. Corpus Chriſti or Benet college, founded in 1350, has but a mean appearance, but is poſſeſſed of a remarkably large collection of valuable and curious ancient manuſcripts. 5. Trinity-hall, on the north of Clare-hall, near the river, was founded in 1351; it is a ſmall but remarkably neat building. 6. Gonvil and Caius college is near the middle of the town, north of the ſenate-houſe, and has three courts. It was founded 1348, and augmented 1557. 7. King's-college, the moſt noble foundation in Europe, was firſt endowed by Henry VI. The old court reſembles a decayed caſtle more than a college. The new building is very magnificent, near 300 feet long. The chapel is one of the fineſt pieces of Gothic architecture now remaining in the world. It is 304 feet long, 73 broad on the outſide and 40 within, and 91 high; and yet not a ſingle pillar to ſuſtain its ponderous roofs, of which it has two: the firſt is of ſtone, moſt curiouſly carved; the other of wood, covered with lead, between which is a vacancy of 10 feet. There is ſuch a profuſion of carvings both within and without as is no where to be equalled. Henry VII. enlarged it 188 feet in length, and Henry VIII. gave the elegant ſtalls and organ gallery, with its inimitable carvings, where are the coats of arms of that king and thoſe of Anne Boleyn quartered. He gave alſo the elegant painted glaſs windows, which are in fine preſervation, and were permitted by Cromwell to be preſerved when almoſt every other in England was deſtroyed, as he had a particular regard for this univerſity where he had his education, and for the town which he had repreſented in parliament. A new altar has been lately erected, which correſponds with the architecture of the building, embelliſhed with an antique painting of Chriſt taking down from the croſs, purchaſed in Italy, and preſented the college by the earl of Carliſle. In this chapel are put up the Spaniſh colours taken at the reduction of Manilla by Colonel Draper, a member of this college. This college has an ancient ſtone-bridge over the Cam. 8. Queen's-college, near the river, ſouth of King's, was founded 1448, and conſiſts of two courts, with a fine grove and gardens on both ſides of the river, connected with each other and the college by two wooden bridges, one of which is of a curious ſtructure. 9. Catharine-hall is eaſt of Queen's, and its principal front on the weſt, the moſt extenſive and regular in the univerſity. It contains only one court 180 feet long and 120 broad, and was founded in 1475. 10. Jeſus college is at the eaſt end of the town, ſurrounded by groves and gardens. The principal front faces the ſouth 180 feet long, regularly built and faſhed; it was originally a benedictine convent, and converted to the preſent uſe 1576. 11. Chriſt's college is oppoſite to St Andrew's church, on the eaſt ſide of the town; and was founded by Henry VII.'s mother in 1505. It has lately had a thorough repair, and is now a neat and beautiful ſtructure. 12. St John's college was founded by the ſame lady in 1509, on the ſite of a diſſolved priory. It conſiſts of three courts, and has a large library filled with ſcarce and valuable books. To this college belongs a fine ſtone-bridge over the river, which leads to their grand walks. 13. Magdalen college, the only one that ſtands on the north ſide of the river, near the great bridge, conſiſts of two courts, and was founded in 1519. 14. Trinity college is eaſt of the river, having St John's college on the north and Caius's college and Trinity-hall on the ſouth. It contains two large quadrangles, the firſt of which is 344 feet long and 280 broad. It has two noble entrances; and on the north ſide of it is the chapel 204 feet long, 34 broad, and 44 high. It has every grand ornament, and the much admired ſtatue of Sir Iſaac Newton, who was a ſtudent in this college. The hall is above 100 feet long, 40 broad, and 50 high. The inner court is eſteemed the fineſt in the univerſity, and ſurpaſſes

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Cambridge. passes any in Oxford. It is very spacious, and has an elegant cloister of stone pillars, supporting grand apartments; on the west is the library, the most elegant structure of the kind in the kingdom, 190 feet long, 40 broad, and 38 high within. Its entrance is by a stair-case, the steps black marble, and the walls incrusted with ancient Roman monuments. The entrance into the library is by folding doors at the north end. Its inside appearance is inexpressibly grand, having at the south end (lately erected) a beautiful painted glass window of his present majesty in his robes; and the classes are large, beautiful, and noble, well stocked with books, manuscripts, &c. Its outside has every suitable embellishment, and was erected by Sir Christopher Wren at the expence of near 20,000 l. Under this building is a spacious piazza of equal dimensions; out of which opens three gates to a lawn that leads to the river, over which is a new elegant cycloidal bridge of three arches, leading to extensive walks. In the middle is a remarkable vista. This college was founded on the site of two other colleges and a hall in 1546 by Henry VIII. 15. Emanuel college is at the south-east end of the town; consists of two courts, the principal of which is very neat; and was built on the site of a Dominican convent. It has been lately in a great part rebuilt and elegantly embellished. 16. Sidney-Sussex college is in Bridge-street. Its hall is elegant, but chapel remarkable only for standing north and south, as others do east and west.

CAMBRIDGESHIRE, an inland county of England, bounded on the east by Norfolk and Suffolk, on the south by Essex and Hertfordshire, on the west by Bedfordshire and Huntingdonshire, and on the north by Lincolnshire. Prior to the arrival of the Romans it was included in the antient division of the Iceni; and after their conquest in the third province of Flavia Cæsariensis, which reached from the Thames to the Humber. During the Heptarchy it belonged to the kingdom of East Angles, the sixth kindom, which began in 575, and ended in 792, having had 14 kings; and it is now included in the Norfolk circuit, the diocese of Ely, and province of Canterbury, except a small part which is in the diocese of Norwich. It is about 40 miles in length from north to south, and 25 in breadth from east to west, and is 130 miles in circumference, containing near 570,000 acres. It has about 17,400 houses, 140,000 inhabitants, is divided into 17 hundreds, in which are one city, Ely; 8 market towns, viz. Cambridge which is the shire town and a celebrated university. Caxton, Linton, Mereh, Newmarket, Soham. Wisbeach, Thorney, and part of Royston; 220 villages, 64 parishes, sends 2 members to parliaments (exclusive of 2 for the town and 2 for the university), pays one part of the land tax, and provides 480 men in the milita. Its only rivers are the Cam, the Nene, and the Ouse. A considerable tract of land in this county is distinguished by the name of the Isl of Ely. It consists of fenny ground, divided by innumerable channels and drains; and is part of a very spacious level, containing 300,000 acres of land, extending into Norfolk, Suffolk, Huntingdonshire, and Lincolnshire. The Isle of Ely is the north division of the county, and extends south almost as far as Cambridge. The whole level, of which this is part, is bounded on one side by the sea, and on the others by uplands; which, taken together, forms a rude kind of semicircle resembling a horse-shoe. The air is very different in different parts of the county. In the fens it Cambridge, Camden. is moist and foggy, and therefore not so wholesome; but in the south and east parts it is very good, these being much drier than the other: but both, by late improvements, have been rendered very fruitful, the former by draining, and the latter by cinquefoil: so that it produces plenty of corn, especily barley, saffron, and hemp, and affords the richest pastures. The rivers abound with fish, and the fens with wild fowl. The principal manufactures of the country are malt, paper, and baskets. As the above tract appears to have been dry land formerly, the great change it has undergone must have been owing either to a violent breach and inundation of the sea or to earthquakes. As the towns in and about the fens were great sufferers by the stagnation of the waters in summer, and want of provisions in winter, many attempts were made to drain them, but without success, until the time of Charles I. in which, and that of his son, the work was happily completed, and an act of parliament passed, by which a corporation was established for its preservation and government. By the same act, 83,000 acres were vested in the corporation and 10,000 in the king. In these fens are a great many DECOYS, in which incredible numbers of ducks, and other wild fowl, are caught during the season.

New CAMBRIDGE, a town of New England about three miles from Boston, remarkable for an university consisting of three colleges. W. Long. 70. 4 N. Lat. 42. 0.

Cambridge Manuscript, a copy of the Gospels and Acts of the Apostles in Greek and Latin. Beza found it in the monastery of Irenæus at Lyons in the year 1562, and gave it to the university of Cambridge in 1582. It is a quarto size, and written on vellum; 66 leaves of it are much torn and mutilated, ten of which are supplied by a later transcriber. Beza conjectures, that this manuscript might have existed so early as the time of Irenæus: Wetstein apprehends, that it either returned or was first brought from Egypt into France; that it is the same copy which Druthmar, an ancient expositor who lived about the year 840, had seen, and which, he observes, was ascribed to St Hilary; and that R. Stphens had given a particular account of it in his edition of the New Testament in 1550. It is usually called *Stevens's second manuscript*. Mill agrees with F. Simon in opinion, that it was written in the western part of the world by a Latin scribe, and that it is to a great degree interpolated and corrupted: he observes, that it agrees so much with the Latin Vulgate, as to afford reason for concluding, that it was corrected or formed upon a corrupt and faulty copy of that translation. From this and the Clermont copy of St Paul's Epistles, Beza published his larger Annotations in 1582.

CAMBYSES. See *(History of)* PERSIA.

CAMDEN (William), the great antiquarian, was born in London in the year 1551. His father was a native of Litchfield in Staffordshire, who settling in London, became a member of the company of painter-stainers, and lived in the Old Bailey. His mother was of the ancient family of Curwen, of Wirkington in Cumberland. He was educated first at Christ's hospital, and afterwards at St Paul's school: from thence he was sent, in 1566, to Oxford, and entered servitor of Magdalen college; but being disappointed of a demy's

Camden. my's place, he removed to Broad-gate hall, and somewhat more than two years after, to Christ-church, where he was supported by his kind friend and patron Dr Thornton. About this time he was a candidate for a fellowship of All-Souls college, but lost it by the intrigues of the Popish party. In 1570, he supplicated the regents of the university to be admitted bachelor of arts; but in this also he miscarried. The following year Mr Camden came to London, where he prosecuted his favourite study of antiquity, under the patronage of Dr Goodman, dean of Westminster, by whose interest he was made second master of Westminster school in 1575. From the time of his leaving the university to this period, he took several journeys to different parts of England, with a view to make observations and collect materials for his *Britannia*, in which he was now deeply engaged. In 1581 he became intimately acquainted with the learned president Brisson, who was then in England; and in 1586 he published the first edition of his Britannia; a work which, though much enlarged and improved in future editions, was even then esteemed an honour to its author, and the glory of his country. In 1593 he succeeded to the head mastership of Westminster school on the resignation of Dr Grant. In this office he continued till 1597, when he was promoted to be Clarenceux king at arms. In the year 1600 Mr Camden made a tour to the north, as far as Carlisle, accompanied by his friend Mr (afterwards Sir Robert) Cotton. In 1606 he began his correspondence with the celebrated president de Thou, which continued to the death of that faithful historian. In the following year he published his last edition of the Britannia, which is that from which the several English translations have been made; and in 1608, he began to digest his materials for a history of the reign of queen Elizabeth. In 1609, after recovering from a dangerous illness, he retired to Chiselhurst in Kent, where he continued to spend the summer months during the remainder of his life. The first part of his annals of the queen did not appear till the year 1615, and he determined that the second volume should not appear till after his death (A). The work was entirely finished in 1617; and from that time he was principally employed in collecting more materials for the further improvement of his Britannia. In 1622, being now upwards of 70, and finding his health decline apace, he determined to lose no time in executing his design of founding an history-lecture in the university of Oxford. His deed of gift was accordingly transmitted by his friend Mr Heather to Mr Gregory Wheare, who was, by himself, appointed his first professor. He died at Chiselhurst in 1623, in the 73d year of his age; and was buried with great solemnity in Westminster-abbey in the south aisle, where a monument of white marble was erected to his memory. Camden was a man of singular modesty and integrity; profoundly learned in the history and antiquities of this kingdom, and a judicious and conscientious historian. He was reverenced and esteemed by the literati of all nations, and will be ever remembered as an honour to the age and country wherein he lived. Besides the works already mentioned, he was author of an excellent Greek grammar, and of several tracts in Hearne's collection. But his great and most useful work, the *Britannia*, is that upon which his fame is chiefly built. The edition above mentioned, to which he put his last hand, was correctly printed in folio, much augmented, amended where it was necessary, and adorned with maps. It was first translated into English, and published in folio at London, in 1611, by the laborious Dr Philemon Holland, a physician of Coventry, who is thought to have consulted our author himself; and therefore great respect has been paid to the additions and explanations that occur therein, on a supposition that they may belong to Camden. But in a later edition of the same translation, published in 1636, the Doctor has taken liberties which cannot either be defended or excused. A new translation, made with the utmost fidelity from the last edition of our author's work, was published in 1695, by Edmund Gibson of Queen's College in Oxford, afterwards bishop of London; in which, besides the addition of notes, and of all that deserved to be taken notice of in Dr Holland's first edition, which, though thrown out of the text, is preserved at the bottom of the page, there are many other augmentations and improvements, all properly distinguished from the genuine work of the author, as they ought to be: and the same judicious method obtained in the next edition of the same performance, which was justly considered as the very best book of its kind that had been hitherto published. But the public has recently been put in possession of a new translation, and still more improved edition, by that learned and industrious topographer Mr Gough, under whose hands it has been enlarged to near double the size of the last of the preceding editions. Camden, Camel.

CAMEL, in zoology. See CAMELUS.

CAMEL, in merchants, a kind of machine used in Holland for raising or lifting ships, in order to bring them over the Pampus, which is at the mouth of the river Y, where the shallowness of the water hinders large ships from passing. It is also used in other places, particularly at the dock of Petersburg, the vessels built here being in their passage to Cronstadt lifted over the bar by means of camels. These machines were originally invented by the celebrated De Wit, for the purpose above mentioned; and were introduced into Russia by Peter the Great, who obtained the model of them when he worked in Holland as a common shipwright. A camel is composed of two separate parts; whose outsides are perpendicular, and whose insides are concave, shaped so as to embrace the hull of a ship on both sides. Each part has a small cabin with sixteen pumps and ten plugs, and contain twenty men. They are braced to a ship underneath by means of cables, and entirely enclose its sides and bottom; being then towed to the bar,

(A) The reign of queen Elizabeth was so recent when the first volume of the Annals was published, that many of the persons concerned, or their dependents, were still living. It is no wonder, therefore, that the honest historian should offend those whose actions would not bear inquiry. Some of his enemies were clamorous and troublesome; which determined him not to publish the second volume during his life; but that posterity might be in no danger of disappointment, he deposited one copy in the Cotton library, and transmitted another to his friend Dupuy at Paris. It was first printed at Leyden in 1625.

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CAMELUS. Plate CXIII.

African Camel, or Dromedary.

Bactrian Camel.

A. Bell Prin. Wal. Sculptor fecit

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Camelford || Camelus.

bar, the plugs are opened, and the water admitted until the camel ſinks with the ſhip and runs a-ground. Then, the water being pumped out, the camel riſes, lifts up the veſſel, and the whole is towed over the bar. This machine can raiſe the ſhip eleven feet, or, in other words, make it draw eleven feet leſs water.

CAMELFORD, a borough town of Cornwall in England, conſiſting of about 100 houſes, badly built; but the ſtreets are broad and well paved. W. Long. 4. 4. N. Lat. 50. 40. It ſends two members to parliament; and gives title of baron to Thomas Pittelder, brother of the great earl of Chatham.

CAMELLIA, in botany: A genus of the polyandria order, belonging to the monodelphia claſs of plants; and in the natural method ranking under the 37th order, *Columniferæ*. The calyx is imbricated and polyphyllous, with the interior leaves larger than the exterior ones. Of this genus there is but one ſpecies, a native both of China and Japan. Thunberg, in his *Flora Japonica*, deſcribes it as growing every where in the groves and gardens of Japan, where it becomes a prodigiouſly large and tall tree, highly eſteemed by the natives for the elegance of its large and very variable bloſſoms, and its evergreen leaves; it is there found with ſingle and double flowers, which alſo are white, red, and purple, and produced from April to October. Repreſentations of this flower are frequently met with in Chineſe paintings. With us, the *Camellia* is generally treated as a ſtove plant, and propagated by layers; it is ſometimes placed in the greenhouſe; but it appears to us to be one of the propereſt plants imaginable for the conſervatory. At ſome future time it may, perhaps, not be uncommon to treat it as a *Laurus-tinus* or *Magnolia*: the high price at which it has hitherto been ſold, may have prevented its being hazarded in this way. The bloſſoms are of a firm texture, but apt to fall off long before they have loſt their brilliancy; it therefore is a practice with ſome to ſtick ſuch deciduous bloſſoms on ſome freſh bud, where they continue to look well for a conſiderable time. Petiver conſidered this plant as a ſpecies of tea-tree; and future obſervations will probably confirm his conjecture.

CAMELODUM. See CAMALODUNUM.

CAMELOPARDALIS, in zoology, the trivial name of a ſpecies of CRAVUS.

CAMELUS, or CAMEL, in zoology, a genus of quadrupeds belonging to the order of pecora. The characters of the camel are theſe: It has no horns; it has ſix fore-teeth in the under jaw; the laniarii are wide ſet, three in the upper, and two in the lower jaw; and there is a fiſſure in the upper lip, reſembling a cleft in the lip of a hare. The ſpecies are:

1. The dromedarius, or Arabian camel, with one bunch or protuberance on the back. It has four callous protuberances on the fore-legs, and two on the hind ones. This ſpecies is common in Africa, and the warmer parts of Aſia; not that it is ſpread over either of the continents. It is a common beaſt of burden in Egypt, and along the countries which border on the Mediterranean Sea; in the kingdom of Morocco, Sara or the Deſert, and in Ethiopia: but no where ſouth of thoſe kingdoms. In Aſia, it is equally common in Turky and Arabia; but is ſcarcely ſeen farther north than Perſia, being too tender to bear a more ſevere climate. India is deſtitute of this animal.

2. The Bactrianus, or Bactrian camel, has two bunches on the back, but is in all other reſpects like the preceding; of which it ſeems to be a mere variety, rather than a different ſpecies; and is equally adapted for riding or carrying loads. It is ſtill found wild in the deſerts of the temperate parts of Aſia, particularly in thoſe between China and India. Theſe are larger and more generous than the domeſticated race. The Bactrian camel, which is very common in Aſia, is extremely hardy, and in great uſe among the Tartars and Mongols, as a beaſt of burden, from the Caſpian Sea to the empire of China. It bears even ſo ſevere a climate as that of Siberia, being found about the lake Baikal, where the Burats and Mongols keep great numbers. They are far leſs than thoſe which inhabit Weſtern Tartary. Here they live during winter on willows and other trees, and are by this diet reduced very lean. They loſe their hair in April, and go naked all May, amidſt the froſts of that ſevere climate. To thrive, they muſt have dry ground and ſalt marſhes. There are ſeveral varieties among the camels. The Turkman is the largeſt and ſtrongeſt. The Arabian is hardy. What is called the Dromedary, Maihary, and Raguahl, is very ſwift. The common ſort travel about 30 miles a day. The laſt, which has a leſs bunch, and more delicate ſhape, and alſo is much inferior in ſize, never carries burdens; but is uſed to ride on. In Arabia, they are trained for running-matches: and in many places for carrying couriers, who can go above 100 miles a day on them; and that for nine days together, over burning deſerts, unhabitable by any living creature. The African camels are the moſt hardy, having more diſtant and more dreadful deſerts to paſs over than any of the others, from Numidia to the kingdom of Ethiopia. In Weſtern Tartary there is a white variety, very ſcarce, and ſacred to the idols and prieſts. The Chineſe have a ſwift variety, which they call by the expreſſive name of Fung Kyo Fo, or camels with feet of the wind. Fat of camels, or, as thoſe people call it, oil of bunches, being drawn from them, is eſteemed in many diſorders, ſuch as ulcers, numbneſs, and conſumptions. This ſpecies of camel is rare in Arabia, being an exotic, and only kept by the great men.

Camels have conſtituted the riches of Arabia from the time of Job to the preſent day. The patriarch reckoned 6000 camels among his paſtoral treaſures, and the modern Arabs eſtimate their wealth by the numbers of theſe uſeful animals. Without them great part of Africa would be wretched; by them the whole commerce is carried through arid and burning tracts, impaſſable but by beaſts which Providence formed expreſsly for the ſcorched deſerts. Their ſoles are adapted to the ſands they are to paſs over, their toughneſs and ſpungy ſoftneſs preventing them from cracking. Their great powers of ſuſtaining abſtinence from drinking, enables them to paſs over unwatered tracts for many days, without requiring the leaſt liquid; and their patience under hunger is ſuch, that they will travel many days fed only with a few dates, or ſome ſmall balls of bean or barley-meal, or on the miſerable thorny plants they meet with in the deſerts.

The Arabians regard the camel as a preſent from heaven, a ſacred animal, without whoſe aſſiſtance they could neither ſubſiſt, carry on trade, nor travel. Ca-

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Camelus. mel's milk is their common food. They alſo eat its flesh, that of the young camel being reckoned highly savoury. Of the hair of thoſe animals, which is fine and ſoft, and which is completely renewed every year, the Arabians make ſtuffs for clothes, and other furniture. With their camels, they not only want nothing, but have nothing to fear. In one day, they can perform a journey of fifty leagues into the deſert, which cuts off every approach from their enemies. All the armies of the world would periſh in purſuit of a troop of Arabs. Hence they never ſubmit, unleſs from choice, to any power. With a view to his predatory expeditions, the Arab inſtructs, rears, and exerciſes his camels. A few days after their birth, he folds their limbs under their belly, forces them to remain on the ground, and, in this ſituation, loads them with a pretty heavy weight, which is never removed but for the purpoſe of replacing a greater. Inſtead of allowing them to feed at pleaſure, and to drink when they are dry, he begins with regulating their meals, and makes them gradually travel long journeys, diminiſhing, at the ſame time, the quantity of their aliment. When they acquire ſome ſtrength, they are trained to the courſe. He excites their emulation by the example of horſes, and, in time, renders them more robuſt. In fine, after he is certain of the ſtrength, fleetneſs, and ſobriety of his camels, he loads them both with his own and their food, ſets off with them, arrives unperceived at the confines of the deſert, robs the firſt paſſengers he meets, pillages the ſolitary houſes, loads his camels with the booty, and, if purſued, he is obliged to accelerate his retreat. It is on theſe occaſions that he unfolds his own talents and thoſe of the camels. He mounts one of the fleeteſt, conducts the troop, and makes them travel night and day, without, almoſt, either ſtopping, eating, or drinking; and, in this manner, he eaſily performs a journey of three hundred leagues in eight days. During this period of motion and fatigue, his camels are perpetually loaded, and he allows them each day, one hour only of repoſe, and a ball of paſte. They often run in this manner nine or ten days, without finding water; and when, by chance, there is a pool at ſome diſtance, they ſcent the water half a league off. Thirſt makes them double their pace, and they drink as much at once as ſerves them for the time that is paſt, and as much to come; for their journeys often laſt ſeveral weeks, and their abſtinence continues an equal time.

Of all carriages, that by camels is the cheapeſt and moſt expeditious. The merchants and other paſſengers unite in a caravan, to prevent the inſults and robberies of the Arabs. Theſe caravans are often very numerous, and are always compoſed of more camels than men. Each camel is loaded in proportion to his ſtrength; and, when overloaded, he refuſes to march, and continues lying till his burden is lightened. The large camels generally carry a thouſand, or even twelve hundred pounds weight, and the ſmalleſt from ſix to ſeven hundred. In theſe commercial travels, their march is not haſtened: As the route is often ſeven or eight hundred leagues, their motions and journeys are regulated. They walk only, and perform about from ten to twelve leagues each day. Every night they are unloaded, and allowed to paſture at freedom. When in a rich country, or fertile meadow, they eat, in leſs than an hour, as much as ſerves them to ruminate the whole night, and to nouriſh them during twenty-four hours. But they ſeldom meet with ſuch paſtures; neither is this delicate food neceſſary for them. They even ſeem to prefer wormwood, thiſtles, nettles, broom, caſſia, and other prickly vegetables, to the ſofteſt herbage. As long as they find plants to brouſe, they eaſily diſpenſe with drink. This facility of abſtaining long from drink proceeds not, however, from habit alone, but is rather an effect of their ſtructure. Independent of the four ſtomachs, which are common to ruminating animals, the camels have a fifth bag, which ſerves them as a reſervoir for water. This fifth ſtomach is peculiar to the camel. It is ſo large as to contain a vaſt quantity of water, where it remains without corrupting, or mixing with the other aliments. When the animal is preſſed with thirſt, and has occaſion for water to macerate his dry food in ruminating, he makes part of this water mount into his paunch, or even as high as the œſophagus, by a ſimple contraction of certain muſcles. It is by this ſingular conſtruction that the camel is enabled to paſs ſeveral days without drinking, and to take at a time a prodigious quantity of water, which remains in the reſervoir pure and limpid, becauſe neither the liquors of the body, nor the juices of digeſtion, can mix with it. Travellers, when much oppreſſed with drought, are ſometimes obliged to kill their camels in order to have a ſupply of drink from theſe reſervoirs. Theſe inoffenſive creatures muſt ſuffer much; for they utter the moſt lamentable cries, eſpecially when overloaded. But, though perpetually oppreſſed, their fortitude is equal to their docility. At the firſt ſignal, they bend their knees and lie down to be loaded, which ſaves their conductor the trouble of raiſing the goods to a great height. As ſoon as they are loaded, they riſe ſpontaneouſly, and without any aſſiſtance. One of them is mounted by their conductor, who goes before, and regulates the march of all the followers. They require neither whip nor ſpur. But, when they begin to be tired, their courage is ſupported, or rather their fatigue is charmed, by ſinging, or by the ſound of ſome inſtrument. Their conductors relieve each other in ſinging; and, when they want to prolong the journey, they give the animals but one hour's reſt; after which, reſuming their ſong, they proceed on their march for ſeveral hours more, and the ſinging is continued till they arrive at another reſting place, when the camels again lie down; and their loads, by unlooſing the ropes, are allowed to glide off on each ſide of the animals. Thus they ſleep on their bellies in the middle of their baggage, which, next morning is fixed on their backs with equal quickneſs and facility as it had been detached the evening before.

Fatigue, hunger, thirſt, and meagreneſs, are not the only inconveniencies to which theſe animals are ſubjected: To all theſe evils they are prepared by caſtration. One male is only left for eight or ten females; and the labouring camels are generally geldings. They are unqueſtionably weaker than unmutilated males; but they are more tractable, and at all ſeaſons ready for ſervice. While the former are not only unmanageable, but almoſt furious, during the rutting ſeaſon, which laſts forty days, and returns annually in the ſpring. It is then ſaid, that they foam con-

Camelus.

Camelus. continually, and that one or two red veſicles, as large as a hog's bladder, iſſue from their mouths. In this ſeaſon they eat little, attack and bite animals, and even their own maſters, to whom at all other times they are very ſubmiſſive. Their mode of copulating differs from that of all other quadrupeds; for the female, inſtead of ſtanding, lies down on her knees, and receives the male in the ſame poſition that ſhe repoſes, or is loaded. This poſture, to which the animals are early accuſtomed, becomes natural, ſince they aſſume it ſpontaneouſly in coition. The time of geſtation is near twelve months, and, like all large quadrupeds, the females bring forth only one at a birth. Her milk is copious and thick; and, when mixed with a large quantity of water, affords an excellent nouriſhment to men. The females are not obliged to labour, but are allowed to paſture and produce at full liberty. The advantage derived from their produce and their milk is perhaps ſuperior to what could be drawn from their working. In ſome places, however, moſt of the females are caſtrated, in order to fit them for labour; and it is alleged, that this operation, inſtead of diminiſhing, augments their ſtrength, vigour, and plumpneſs. In general, the fatter camels are, they are the more capable of enduring great fatigue. Their bunches ſeem to proceed from a redundance of nouriſhment; for, during long journeys, in which their conductor is obliged to huſband their food, and where they often ſuffer much hunger and thirſt, theſe bunches gradually diminiſh, and become ſo flat, that the place where they were is only perceptible by the length of the hair, which is always longer on theſe parts than on the reſt of the back. The meagreneſs of the body augments in proportion as the bunches decreaſe. The Moors, who tranſport all articles of merchandiſe from Barbary and Numidia, as far as Æthiopia, ſet out with their camels well laden, which are very fat and vigorous; and bring back the ſame animals ſo meagre, that they commonly ſell at a low price to the Arabs of the Deſert, to be again fattened.

We are told by the ancients, that camels are in a condition for propagating at the age of three years. This aſſertion is ſuſpicious; for, in three years, they have not acquired one half of their growth. The penis of the male, like that of the bull, is very long, and very ſlender. During erection, it ſtretches forward, like that of all other quadrupeds; but, in its ordinary ſtate, the ſheath is drawn backward, and the urine is diſcharged from between the hind legs; ſo that both males and females urine in the ſame manner. The young camel ſucks his mother twelve months; but, when meant to be trained, in order to render him ſtrong and robuſt in the chace, he is allowed to ſuck and paſture at freedom during the firſt years, and is not loaded, or made to perform any labour, till he is four years old. He generally lives forty and ſometimes fifty years, which duration of life is proportioned to the time of his growth. There is no foundation for what has been advanced by ſome authors, that he lives one hundred years.

By conſidering, under one point of view, all the qualities of this animal, and all the advantages derived from him, it muſt be acknowledged that he is the moſt uſeful creature ſubjected to the ſervice of man. Gold and ſilk conſtitute not the true riches of the Eaſt. The camel is the genuine treaſure of Aſia. He is more valuable than the elephant; for he may be ſaid to perform an equal quantity of labour at a twentieth part of the expence. Beſides, the whole ſpecies are under ſubjection to man, who propagates and multiplies them at pleaſure. But he has no ſuch dominion over the elephants, whom he cannot multiply, and the individuals of whom he conquers with great labour and difficulty. The camel is not only more valuable than the elephant, but is perhaps equal in utility to the horſe, the aſs, and the ox, when their powers are united. He carries as much as two mules; though he eats as little, and feeds upon herbs equally coarſe as the aſs. The female furniſhes milk longer than the cow. The fleſh of a young camel is as good and wholeſome as veal: The Africans and Arabs fill their pots and tubs with it, which is fried with greaſe, and preſerved in this manner during the whole year for their ordinary repaſts: The hair is finer and more in requeſt than the beſt wool. Even their excrements are uſeful: for ſal ammoniac is made of their urine; and their dung, dried in the ſun and pulveriſed, ſerves for litter to themſelves, as well as to horſes, with which people frequently travel in countries where no hay or ſtraw can be had. In fine, their dung makes excellent fuel, which burns freely, and gives as clear and nearly as hot a flame as dry wood, which is of great uſe in the deſerts, where not a tree is to be found, and where, for want of combuſtible materials, fire is as ſcarce as water. Camelus.

3. The Glama, Llama, or South-American camel-ſheep, has an almoſt even back, ſmall head, fine black eyes, and very long neck, bending much, and very protuberant near the junction with the body: in a tame ſtate, with ſmooth ſhort hair; in a wild ſtate, with long coarſe hair, white, grey, and ruſſet, diſpoſed in ſpots; with a black line from the head along the top of the back to the tail, and belly white. The ſpotted may poſſibly be the tame, the laſt the wild, llamas. The tail is ſhort; the height from ſoor to four feet and a half; the length from the neck to the tail, ſix feet. The carcaſe diveſted of ſkin and offals, according to the editor of Mr Byron's voyage, weighed 200lb. In general, the ſhape exactly reſembles a camel, only it wants the dorſal hunch. It is the camel of Peru and Chili; and, before the arrival of the Spaniards, was the only beaſt of burden known to the Indians. It is very mild, gentle, and tractable. Before the introduction of mules, they were uſed by the Indians to plough the land: at preſent they ſerve to carry burdens of about 100lb. They go with great gravity; and, like their Spaniſh maſters, nothing can prevail upon them to change their pace. They lie down to the burden; and when wearied, no blows can provoke them to go on. Teuillee ſays, they are ſo capricious, that if ſtruck, they inſtantly ſquat down, and nothing but careſſes can make them ariſe. When angry, they have no other method of revenging their injuries than by ſpitting; and they can ejaculate their ſaliva to the diſtance of ten paces: if it falls on the ſkin, it raiſes an itching and a reddiſh ſpot. Their fleſh is eaten, and is ſaid to be as good as mutton. The wool has a ſtrong diſagreeable ſcent. They are very ſure-footed; therefore uſed to carry the Peruvian ores over the ruggedeſt hills and narroweſt paths of the Andes. They

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Camelus ‖ Camera Lucida.

inhabit that vaſt chain of mountains their whole length to the ſtraits of Magellan; but except where theſe hills approach the ſea, as in Patagonia, never appear on the coaſts. Like the camel, they have powers of abſtaining long from drink, ſometimes for four or five days: like that animal, their food is coarſe and trifling. —In a wild ſtate, they keep in great herds in the higheſt and ſteepeſt parts of the hills; and while they are feeding, one keeps centry on the pinnacle of ſome rock: if it perceives the approach of any one, it neighs; the herd takes the alarm, and goes off with incredible ſpeed. They outrun all dogs, ſo there is no other way of killing them but with the gun. They are killed for the ſake of their fleſh and hair; for the Indians weave the laſt into cloth. From the form of the parts of generation in both ſexes, no animal copulates with ſuch difficulty. It is often the labour of a day, *antequam actum ipſum venereum incipiant, et abſolvant.*

4. The Pacos, or ſheep of Chili, has no bunch on the back. It is covered with a fine valuable wool, which is of a roſe red colour on the back of the animal, and white on the belly. They are of the ſame nature with the preceding; inhabit the ſame places, but are more capable of ſupporting the rigour of froſt and ſnow: they live in vaſt herds; are very timid, and exceſſively ſwift. The Indians take the pacos in a ſtrange manner: they tie cords with bits of cloth or wool hanging to them, above three or four feet from the ground, croſs the narrow paſſes of the mountains, then drive thoſe animals towards them, which are ſo terrified by the flutter of the rags, as not to dare to paſs, but, huddling together, give the hunters an opportunity to kill with their ſlings as many as they pleaſe. The tame ones will carry from 50 to 75lb.; but are kept principally for the ſake of the wool and the fleſh, which is exceedingly well taſted.

CAMERA Æolia, a contrivance for blowing the fire, for the fuſion of ores, without bellows; by means of water falling through a funnel into a cloſe veſſel, which ſends from it ſo much air or vapour as continually blows the fire: if there be the ſpace of another veſſel for it to expatiate in by the way, it there lets fall its humidity, which otherwiſe might hinder the work. This contrivance was named *camera Æolia* by Kircher.

Camera Lucida, a contrivance of Dr Hook for making the image of any thing appear on a wall in a light room, either by day or night. Oppoſite to the place or wall where the appearance is to be, make a hole of at leaſt a foot in diameter, or if there be a high window with a caſement of this dimenſion in it, this will do much better without ſuch hole or caſement opened. At a convenient diſtance, to prevent its being perceived by the company in the room, place the object or picture intended to be repreſented, but in an inverted ſituation. If the picture be tranſparent, reflect the ſun's rays by means of a looking-glaſs, ſo as that they may paſs through it towards the place of repreſentation; and to prevent any rays from paſſing aſide it, let the picture be encompaſſed with ſome board or cloth. If the object be a ſtatue, or a living creature, it muſt be much enlightened by caſting the ſun's rays on it, either by reflection, refraction, or both. Between this object and the place of repreſentation put a broad convex glaſs, ground to ſuch a convexity as that it may repreſent the object diſtinctly in ſuch place. The nearer this is ſituated to the object, the more will the image be magnified on the wall, and the further the leſs; ſuch diverſity depending on the difference of the ſpheres of the glaſſes. If the object cannot be conveniently inverted, there muſt be two large glaſſes of proper ſpheres, ſituated at ſuitable diſtances, eaſily found by trial, to make the repreſentations erect. This whole apparatus of object, glaſſes, &c. with the perſons employed in the management of them, are to be placed without the window or hole, ſo that they may not be perceived by the ſpectators in the room, and the operation itſelf will be eaſily performed. Phil. Tranſ. N° 38. p. 741, ſeq.

Camera Obſcura ‖ Camera-rius

Camera Obſcura, or *Dark Chamber*, in *Optics*, a machine, or apparatus, repreſenting an artificial eye; whereon the images of external objects, received thro' a double convex glaſs, are exhibited diſtinctly, and in their native colours, on a white matter placed within the machine, in the focus of the glaſs.

The firſt invention of this inſtrument is aſcribed to Baptiſta Porta. See his *Magia Naturalis*, lib. xvii. cap. 6. firſt publiſhed at Franckfort about the year 1589 or 1591; the firſt four books of this work were publiſhed at Antwerp in 1560.

The *camera obſcura* affords very diverting ſpectacles; both by exhibiting images perfectly like their objects, and each clothed in their native colours; and by expreſſing, at the ſame time, all their motions; which latter no other art can imitate. By means of this inſtrument, a perſon unacquainted with deſigning will be able to delineate objects with the greateſt accuracy and juſtneſs, and another well verſed in painting will find many things herein to perfect his art. See the conſtruction under Dioptrics.

CAMERARIA, in botany: A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 30th order, *Contortæ*. There are two horizontal follicles at the baſe of the ſeed-caſe. The ſeeds are inſerted into a proper membrane. Of this there are two ſpecies; the latifolia, and the anguſtifolia. The firſt is a native of the iſland of Cuba, and riſes with a ſhrubby ſtalk to the height of 10 or 12 feet, dividing into ſeveral branches, garniſhed with roundiſh pointed leaves placed oppoſite. The flowers are produced at the end of the branches in looſe cluſters, which have long tubes enlarging gradually upward, and at the top are cut into five ſegments, broad at their baſe, but ending in ſharp points; the flower is of a yellowiſh white colour. The ſecond ſort has an irregular ſhrubby ſtalk, which riſes about eight feet high, ſending out many branches which are garniſhed with very narrow thin leaves placed oppoſite at each joint. The flowers are produced ſcatteringly at the end of the branches, which are ſhaped like thoſe of the former ſort, but ſmaller. It is a native of Jamaica. Both theſe plants abound with an acrid milky juice like the ſpurge. They are propagated by ſeeds, which muſt be procured from the places of their growth. They may alſo be propagated by cuttings planted in a hot-bed during the ſummer-months: they muſt have a bark-ſtove, for they are very tender plants; but in warm weather they muſt have plenty of air.

CAMERARIUS (Joachim), one of the moſt learn-

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Camerarius || Cameronians

ed writers of his time, was born in 1500, at Bamberg, a city of Franconia; and obtained great reputation by his writings. He tranſlated into Latin Herodotus, Demoſthenes, Xenophon, Euclid, Homer, Theocritus, Sophocles, Lucian, Theodoret, Nicephorus, &c. He publiſhed a catalogue of the biſhops of the principal ſees; Greek epiſtles; Accounts of his journeys, in Latin verſe; a Commentary on Plautus; the Lives of Helius Eobanus Heſſus, and Philip Melancthon, &c. He died in 1574.

Camerarius (Joachim), ſon of the former, and a learned phyſician, was born at Nuremberg in 1534. After having finiſhed his ſtudies in Germany, he went into Italy, where he obtained the eſteem of the learned. At his return he was courted by ſeveral princes to live with them; but he was too much devoted to books, and the ſtudy of chemiſtry and botany, to comply. He wrote an hortus medicus, and ſeveral other works. He died in 1598.

CAMERATED, among builders, the ſame with vaulted or arched.

CAMERET-BAY, in the province of Brittany in France, forms the harbour of Breſt. See Brest.

CAMERINO, a town of the eccleſiaſtical ſtate in Italy, ſituated in E. Long. 13. 7. N. Lat. 45. 5.

CAMERLINGO, according to Ducange, ſignified formerly the pope's or emperor's treaſure: at preſent, camerlingo is no where uſed but at Rome, where it denotes the cardinal who governs the eccleſiaſtical ſtate and adminiſters juſtice. It is the moſt eminent office at the court of Rome, becauſe he is at the head of the treaſury. During a vacation of the papal chair, the cardinal camerlingo publiſhes edicts, coins money, and exerts every other prerogative of a ſovereign prince; he has under him a treaſurer-general, auditor-general, and 12 prelates called *clerks of the chamber*.

CAMERON (John), one of the moſt famous divines among the Proteſtants of France in the 17th century, was born at Glaſgow in Scotland, where he taught the Greek tongue; and having read lectures upon that language for about a year, travelled, and became profeſſor at ſeveral univerſities, and miniſter at Bourdeaux. He publiſhed, 1. Theological lectures; 2. *Ioan Johannis Cameronis*; and ſome miſcellaneous pieces. He died in 1625, aged 60.

CAMERONIANS, a ſect or party in Scotland, who ſeparated from the Preſbyterians in 1666, and continued to hold their religious aſſemblies in the fields.

The Cameronians took their denomination from Richard Cameron, a famous field-preacher, who, refuſing to accept the indulgence to tender conſciences, granted by king Charles II. as ſuch an acceptance ſeemed an acknowledgment of the king's ſupremacy, and that he had before a right to ſilence them, made a defection from his brethren, and even headed a rebellion, in which he was killed. His followers were never entirely reduced till the Revolution, when they voluntarily ſubmitted to king William.

The Cameronians adhered rigidly to the form of government eſtabliſhed in 1648.

Cameronians, or *Cameronites*, is alſo the denomination of a party of Calviniſts in France, who aſſerted that the will of man is only determined by the practical judgment of the mind; that the cauſe of mens doing good or evil proceeds from the knowledge which God infuſes into them; and that God does not move the will phyſically, but only morally, in virtue of its dependence on the judgment of the mind. They had this name from John Cameron, a famous profeſſor, firſt at Glaſgow, where he was born, in 1580, and afterwards at Bourdeaux, Sedan, and Saumur; at which laſt place he broached his new doctrine of grace and free-will, which was formed by Amyraut, Cappel, Bochart, Daille, and others of the more learned among the reformed miniſters, who judged Calvin's doctrines on theſe points too harſh. The Cameronians are a ſort of mitigated Calviniſts, and approach to the opinion of the Armenians. They are alſo called *Univerſaliſts*, as holding the univerſality of Chriſt's death; and ſometimes *Amyraldiſts*. The rigid adherents to the ſynod of Dort accuſed them of Pelagianiſm, and even of Manicheiſm. The controverſy between the parties was carried on with a zeal and ſubtilty ſcarce conceivable; yet all the queſtion between them was only, Whether the will of man is determined by the immediate action of God upon it, or by the intervention of a knowledge which God impreſſes into the mind? The ſynod of Dort had defined that God not only illuminates the underſtanding, but gives motion to the will by making an internal change therein. Cameron only admitted the illumination, whereby the mind is morally moved, and explained the ſentiment of the ſynod of Dort ſo as to make the two opinions conſiſtent.

Cames || Camillus.

CAMES, a name given to the ſmall ſlender rods of caſt-lead, of which the glaziers make their turned lead. Their lead being caſt into ſlender rods of twelve or fourteen inches long each, is called the *came*; ſometimes alſo they call each of theſe rods a *came*, which being afterwards drawn through their vice, makes their turned lead.

CAMILLUS (Marcus Furius) was the firſt who rendered the family of *Furius* illuſtrious. He triumphed four times, was five times dictator, and was honoured with the title of the *ſecond founder of Rome*. In a word, he acquired all the glory a man can gain in his own country. Lucius Apuleius, one of the tribunes, proſecuted him to make him give an account of the ſpoils taken at Veii. Camillus anticipated judgment, and baniſhed himſelf voluntarily. During his baniſhment, inſtead of rejoicing at the deva ſtation of Rome by the Gauls, he exerted all his wiſdom and bravery to drive away the enemy; and yet kept with the utmoſt ſtrictneſs the ſacred law of Rome, in refuſing to accept the command which ſeveral private perſons offered him. The Romans, who were beſieged in the capitol, created him dictator in the year 363; in which office he acted with ſo much bravery and conduct, that he entirely drove the army of the Gauls out of the territories of the commonwealth. He died in the 81ſt year of his age, 365 years before the Chriſtian æra.

CAMILLI and Camillæ, in antiquity, boys and girls of ingenuous birth, who miniſtered in the ſacrifices of the gods; and eſpecially thoſe who attended the *flamen dialis*, or prieſt of Jupiter. The word ſeems borrowed from the language of the ancient Hetrurians, where

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Caminha || Camoens

where it ſignified miniſter, and was changed from *caſmillus*. The Tuſcans alſo gave the appellation *Camilhus* to Mercury, in quality of miniſter of the gods.

CAMINHA, a maritime town of Portugal, in the province of Entre-Duero-e-Minho, with the title of a duchy. It is ſituated at the mouth of the river Minho, in W. Long. 9. 15. N. Lat. 41. 44.

CAMIS, or KAMIS, in the *Japaneſe Theology*, denote deified ſouls of ancient heroes, who are ſuppoſed ſtill to intereſt themſelves in the welfare of the people over whom they aneiently commanded.

The eamis anſwer to the heroes in the ancient Greek and Roman theology, and are venerated like the ſaints in the modern Romiſh eburch.

Beſides the heroes or camis beatified by the conſent of antiquity, the *mikadoes*, or pontiffs, have deified many others, and continue ſtill to grant the apotheoſis to new worthies; ſo that they ſwarm with *camis*: the principal one is *Tenſio Dai Sin*, the common father of Japan, to whom are paid devotions and pilgrimages extraordinary.

CAMISADE, in the art of war, an attaek by ſurpriſe in the night, or at the break of day, when the enemy is ſuppoſed to be a-bed. The word is ſaid to have taken its riſe from an attack of this kind; wherein, as a badge or ſignal to know one another by, they bore a ſhift, io Freneh called *chemiſe*, or *camiſe*, over their arms.

CAMISARDS, a name given by the Freneh to the Calviniſts of the Cevennes, who formed a league, and took up arms in their own defenee, io 1688.

CAMLETINE, a ſlight ſtuff, made of hair and eoarſe ſilk, in the manner of camblet. It is now out of faſhion.

CAMMA, and GOBAI, two provinees of the kingdom of Loango in Africa. The inhabitants are continually at war with eaeh other. The weapons they formerly uſed in their wars were the ſhort pike, bows and arrows, ſword and dagger; but ſince the Europeans have become acquainted with that eoaſt, they have ſupplied them with fire-arms. The ehief town of Gobbi lies about a day's journey from the ſea. Their rivers abound with a variety of fiſh; hut are infeſted with ſea-horſes, which do great miſchief both by land and water. The prineipal eommerce with the natives is in logwood, elephants teeth, and tails, the hair of whieh is highly valued, and uſed for ſeveral curious purpoſes.

CAMMIN, a maritime town of Germany, in Brandenburg Pomerania, ſituated in E. Long. 15°. N. Lat. 54°.

CAMOENS (Louis de), a famous Portugueſe poet, the honour of whoſe birth is elaimed by different cities. But according to N. Antonio, and Manuel Correa, his intimate friend, this event happened at Liſbon in 1517. His family was of conſiderable note, and originally Spaniſh. In 1370, Vaſco Perez de Caamans, diſguſted at the court of Caſtile, fled to that of Liſbon, where king Ferdinand immediately admitted him into his eouneil, and gave him the lordſhips of Sardoal, Punnete, Marano, Amendo, and other conſiderable lands; a certain proof of the eminence of his rank and abilities. In the war for the ſueceſſion, which broke out en the death of Ferdinand, Camoens ſided with the king of Caſtile, and was killed io the battle of Aljabarota. But though John I. the victor, ſeized a great part of his eſtate, his widow, the daughter of Gonſalo Tereyro, grand maſter of the order of Chriſt, and general of the Portugueſe army, was not reduced beneath her rank. She had three ſons who took the name of *Camoens*. The family of the eldeſt intermarried with the firſt nobility of Portugal; and even, aecording to Caſtera, with the blood royal. But the family of the ſecond brother, whoſe fortune was ſlender, had the ſuperior honour to produce the author of the Luſiad. Camoens

Early in his life the misfortunes of the poet began. In his infancy, Simon Vaz de Camoens, his father, commander of a veſſel, was ſhipwrecked at Goa, where, with his life, the greateſt part of his fortune was loſt. His mother, however, Anne de Macedo of Santarene, provided for the education of her ſon Louis at the univerſity of Coimbra. What he acquired there, his works diſcover; an intimacy with the elaſſies, equal to that of a Scaliger, but directed by the taſte of a Milton or a Pope.

When he left the univerſity, he appeared at court. He was handſome; had ſpeaking eyes, it is ſaid; and the fineſt complexion. Certain it is, however, he was a poliſhed ſcholar, whieh, added to the natural ardour and gay vivacity of his diſpoſition, rendered him an aecompliſhed gentleman. Courts are the ſcenes of intrigue; and intrigue was faſhionable at Liſbon. But the partieulars of the amours of Camoens reſt unknown. This only appears: he had aſpired above his rank, for he was baniſhed from the eourt; and in ſeveral of his ſonnets he aſcribes this misfortune to love.

He now retired to his mother's friends at Santarene. Here he renewed his ſtudies, and began his poem on the diſcovery of India. John III. at this time prepared an armament againſt Afriea. Camoens, tired of his inactive obſcure life, went to Ceuta in this expedition, and greatly diſtinguiſhed his valour in ſeveral renecounters. In a naval engagement with the Moors in the ſtraits of Gibraltar, in the conflict of boarding, he was among the foremoſt, and loſt his right eye. Yet neither hurry of actual ſerviee nor the diſſipation of the camp could ſtifle his genius. He continued his *Luſiadas*, and ſeveral of his moſt beautiful ſonnets were written in Africa, while, as he expreſſed it,

One hand the pen, and one the ſword, employ'd.

The fame uf his valour had now reached the eourt, and he obtained permiſſion to return to Liſbon. But, while he ſolicited an eſtabliſhment which he had merited in the ranks of battle, the malignity of evil tongues, as he calls it in one of his letters, was injuriouſly poured upon him. Though the bloom of his early youth was effaced by ſeveral years reſidence under the ſcorching heavens of Africa, and though altered by the loſs of an eye, his preſence gave uneaſineſs to the gentlemen of ſome families of the firſt rank where he had formerly viſited. Jealouſy is the eharacteriſtic of the Spaniſh and Portugueſe; its reſentment knows no bounds, and Camoens now found it prudent to baniſh himſelf from his native eountry. Aecordingly, in 1553, he ſailed for India, with a reſolution never to return. As the ſhip left the Tagus, he exclaimed, in the words of the ſepulchral monument of Scipio Afrieanus, *Ingrata patria, non poſſidebis oſſa mea!* "Ungrateful

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Camoens. ful country, thou ſhalt not poſſeſs my bones!" But he knew not what evils in the Eaſt would awake the remembrance of his native fields.

When Camoens arrived in India, an expedition was ready to ſail to revenge the king of Cochin on the king of Pimenta. Without any reſt on ſhore after his long voyage, he joined this armament, and in the conqueſt of the Alagada iſlands diſplayed his uſual bravery.

In the year following, he attended Manuel de Vaſconcello in an expedition to the Red Sea. Here, ſays Faria, as Camoens had no uſe for his ſword, he employed his pen. Nor was his activity confined in the fleet or camp. He viſited Mount Felex and the adjacent inhoſpitable regions of Africa, which he ſo ſtrongly pictures in the Luſiad, and in one of his little pieces where he laments the abſence of his miſtreſs.

When he returned to Goa, he enjoyed a tranquillity which enabled him to beſtow his attention on his Epic Poem. But this ſerenity was interrupted, perhaps by his own imprudence. He wrote ſome ſatires which gave offence; and, by order of the viceroy Franciſco Barreto, he was baniſhed to China.

The accompliſhments and manners of Camoens ſoon found him friends, though under the diſgrace of baniſhment. He was appointed commiſſary of the deſunct in the iſland of Macao, a Portugueſe ſettlement in the bay of Canton. Here he continued his Luſiad; and here alſo, after five years reſidence, he acquired a fortune, though ſmall, yet equal to his wiſhes. Don Conſtantine de Braganza was now viceroy of India; and Camoens, deſirous to return to Goa, reſigned his charge. In a ſhip, freighted by himſelf, he ſet ſail; but was ſhipwrecked in the gulph near the mouth of the river Mehon on the coaſt of China. All he had acquired was loſt in the waves: his poems, which he held in one hand, while he ſwimmed with the other, were all he found himſelf poſſeſſed of when he ſtood friendleſs on the unknown ſhore. But the natives gave him a moſt humane reception: this he has immortaliſed in the prophetic ſong in the tenth Luſiad; and in the ſeventh, he tells us, that here he loſt the wealth which ſatisfied his wiſhes.

Agora da eſperança ja adquirida, &c.
Now bleſt with all the wealth fond hope could crave,
Soon I beheld that wealth beneath the wave
For ever loſt;——
My life, like Judah's heaven-doom'd king of yore,
By miracle prolong'd——

On the banks of the Mehon, he wrote his beautiful paraphraſe of the pſalm, where the Jews, in the fineſt ſtrain of poetry, are repreſented as hanging their harps on the willows by the rivers of Babylon, and weeping their exile from their native country. Here Camoens continued ſome time, till an opportunity offered to carry him to Goa. When he arrived at that city, Don Conſtantine de Braganza, the viceroy, whoſe characteriſtic was politeneſs, admitted him into intimate friendſhip, and Camoens was happy till count Redondo aſſumed the government. Thoſe who had formerly procured the baniſhment of the ſatiriſt, were ſilent while Conſtantine was in power; but now they exerted all their arts againſt him. Redondo, when he entered on office, pretended to be the friend of Camoens; yet, with all that unfeeling indifference with which he made his moſt horrible witticiſm on the Zamorim, he ſuffered the innocent man to be thrown into the common priſon. Camoens. After all the delay of bringing witneſſes, Camdens, in a public trial, fully refuted every accuſation of his conduct while commiſſary at Macao, and his enemies were loaded with ignominy and reproach. But Camoens had ſome creditors; and theſe detained him in priſon a conſiderable time, till the gentlemen of Goa began to be aſhamed that a man of his ſingular merit ſhould experience ſuch treatment among them. He was ſet at liberty; and again he aſſumed the profeſſion of arms, and received the allowance of a gentleman volunteer, a character at this time common in Portugueſe India. Soon after, Pedro Barreto, appointed governor of the fort at Sofala, by high promiſes, allured the poet to attend him thither. The governor of a diſtant fort, in a barbarous country, ſhares in ſome meaſure the fate of an exile. Yet, though the only motive of Barreto was, in this unpleaſant ſituation, to retain the converſation of Camoens at his table, it was his leaſt care to render the life of his gueſt agreeable. Chagrined with his treatment, and a conſiderable time having elapſed in vain dependence upon Barreto, Camoens reſolved to return to his native country. A ſhip, on the homeward voyage, at this time touched at Sofala, and ſeveral gentlemen who were on board were deſirous that Camoens ſhould accompany them. But this the governor ungeneroufly endeavoured to prevent, and charged him with a debt for board. Anthony de Cabra, however, and Hector de Sylveyra, paid the demand; and Camoens, ſays Faria, and the honour of Barreto, were ſold together.

After an abſence of 16 years, Camoens, in 1569, returned to Liſbon, unhappy even in his arrival, for the peſtilence then raged in that city, and prevented his publication for three years. At laſt, in 1572, he printed his Luſiad, which, in the opening of the firſt book, in a moſt elegant turn of compliment, he addreſſed to his prince, king Sebaſtian, then in his 18th year. The king, ſays the French traduſtor, was ſo pleaſed with his merit, that he gave the author a penſion of 4000 reals, on condition that he ſhould reſide at court. But this ſalary, ſays the ſame writer, was withdrawn by cardinal Henry, who ſucceeded to the crown of Portugal, loſt by Sebaſtian at the battle of Alcazar.

Though the great patron of one ſpecies of literature, a ſpecies the reverſe of that of Camoens, certain it is, that the author of the Luſiad was utterly neglected by Henry, under whoſe inglorious reign he died in all the miſery of poverty. By ſome, it is ſaid, he died in an alms-houſe. It appears, however, that he had not even the certainty of ſubſiſtence which theſe houſes provide. He had a black ſervant, who had grown old with him, and who had long experienced his maſter's humanity. This grateful Indian, a native of Java, who, according to ſome writers, ſaved his maſter's life in the unhappy ſhipwreck where he loſt his effects, begged in the ſtreets of Liſbon for the only man in Portugal on whom God had beſtowed thoſe talents which have a tendency to erect the ſpirit of a dowuward age. To the eye of a careful obſerver, the fate of Camoens throws great light on that of his country, and will appear ſtrictly connected with it. The ſame ignorance, the ſame degenerated ſpirit, which ſuffered Camoens to depend on his ſhare of the alms begged in the ſtreets by his old hoary ſervant,

Camomile, Camp.

vant, the ſame ſpirit which cauſed this, ſunk the kingdom of Portugal into the moſt abject vaſſalage ever experienced by a conquered nation. While the grandees of Portugal were blind to the ruin which impended over them, Camoens beheld it with a pungency of grief which haſtened his exit. In one of his letters he has theſe remarkable words: *Em fim accaberey á vida, e verram todos que fuy eſcrauo a minho patria, &c.* "I am ending the courſe of my life, the world will witneſs how I have loved my country. I have returned, not only to die in her boſom, but to die with her."

In this unhappy ſituation, in 1579, in his 62d year, the year after the fatal defeat of Don Sebaſtian, died Louis de Camoens, the greateſt literary genius ever produced by Portugal; in martial courage and ſpirit of honour, nothing inferior to her greateſt heroes. And in a manner ſuitable to the poverty in which he died, was he buried.

CAMOMILE, in botany. See ANTHEMIS.

CAMP, the ground on which an army pitch their tents. It is marked out by the quarter-maſter general, who appoints every regiment their ground.

The chief advantages to be minded in chuſing a camp for an army, are, to have it near the water, in a country of forage, where the ſoldiers may find wood for dreſſing their victuals; that it have a free communication with garriſons, and with a country from whence it may be ſupplied with proviſions; and, if poſſible, that it lie ſituated on a riſing ground, in a dry gravelly ſoil. Beſides, the advantages of the ground ought to be conſidered, as marſhes, woods, rivers, and incloſures; and if the camp be near the enemy, with no river or marſh to cover it, the army ought to be intrenched. An army always encamps fronting the enemy; and generally in two lines, running parallel about 500 yards diſtance; the horſe and dragoons, on the wings, and the foot, in the centre: ſometimes a body of two, three, or four brigades is encamped behind the two lines, and is called the *body of reſerve*. The artillery and bread-waggons are generally encamped in the rear of the two lines. A battalion of foot is allowed 80 or 100 paces for its camp; and 30 or 40 for an interval betwixt one battalion and another. A ſquadron of horſe is allowed 30 for its camp, and 30 for an interval, and more if the ground will allow it.

Where the grounds are equally dry, thoſe camps are always the moſt healthful that are pitched on the banks of large rivers; becauſe, in the hot ſeaſon, ſituations of this kind have a ſtream of freſh air from the water, ſerving to carry off the moiſt and putrid exhalations. On the other hand, next to marſhes, the worſt encampments are on low grounds cloſe beſet with trees; for then the air is not only moiſt and hurtful in itſelf, but by ſtagnating becomes more ſuſceptible of corruption. However, let the ſituation of camps be ever ſo good, they are frequently rendered infectious by the putrid effluvia of rotten ſtraw, and the privies of the army; more eſpecially if the bloody flux prevails, in which caſe the beſt method of preventing a general infection, is to leave the ground with the privies, foul ſtraw, and other filth of the camp, behind. This muſt be frequently done, if conſiſtent with the military operations: but when theſe render it improper to change the ground often, the privies ſhould be made deeper than uſual, and once a-day a thick layer of earth thrown into them till the pits are near full; and then they are to be well covered, and ſupplied by others. It may alſo be a proper caution to order the pits to be made either in the front or the rear, as the then ſtationary winds may beſt carry off their effluvia from the camp. Moreover, it will be neceſſary to change the ſtraw frequently, as being not only apt to rot, but to retain the infectious ſteams of the ſick. But if freſh ſtraw cannot be procured, more care muſt be taken in airing the tents, as well as the old ſtraw. Camp.

The diſpoſition of the Hebrew encampment was at firſt laid out by God himſelf. Their camp was of a quadrangular form, ſurrounded with an incloſure of the height of 10 hands-breadth. It made a ſquare of 12 miles in compaſs about the tabernacle; and within this was another, called the *Levites camp*.

The Greeks had alſo their camps, fortified with gates and ditches. The Lacedæmonians made their camp of a round figure, looking upon that as the moſt perfect and defenſible of any form: we are not, however, to imagine, that they thought this form ſo eſſential to a camp, as never to be diſpenſed with when the circumſtances of the place require it. Of the reſt of the Grecian camps, it may be obſerved, that the moſt valiant of the ſoldiers were placed at the extremities, the reſt in the middle. Thus we learn from Homer, that Achilles and Ajax were poſted at the ends of the camp before Troy, as bulwarks on each ſide of the reſt of the princes.

The figure of the Roman camp was a ſquare divided into two principal parts: in the upper parts were the general's pavilion, or prætorium, and the tent of the chief officers; in the lower, thoſe of inferior degree were placed. On one ſide of the prætorium ſtood the quæſtorium, or apartment of the treaſurer of the army; and near this the forum, both for a market-place and the aſſembling of councils. On the other ſide of the prætorium were lodged the legati; and below it the tribunes had their quarters, oppoſite to their reſpective legions. Aſide of the tribunes were the præfecti of the foreign troops, over againſt their reſpective wings; and behind theſe were the lodgments of the evocati, then thoſe of the extraordinarii and ablecti equites, which concluded the higher part of the camp. Between the two partitions was a ſpot of ground called *principia*, for the altars and images of the gods, and probably alſo for the chief enſigns. The middle of the lower partition was aſſigned to the Roman horſe; next to them were quartered the triarii; then the principes, and cloſe by them the haſtati; afterwards the foreign horſe, and laſtly the foreign foot. They fortified their camp with a ditch and parapet, which they termed *foſſa* and *vallum*; in the latter ſome diſtinguiſh two parts, *viz.* the *agger* or earth, and the *ſudes* or wooden ſtakes driven in to ſecure it. The camps were ſometimes ſurrounded by walls made of hewn ſtone; and the tents themſelves formed of the ſame matter.

In the front of the Turkiſh camp are quartered the janizaries and other foot, whoſe tents encompaſs their aga: in the rear are the quarters of the ſpahis and other horſemen. The body of the camp is poſſeſſed by the ſtately tents or pavilions of the vizer or general, rais effendi or chancellor, kahija or ſteward, the teſterdar baſhaw or lord treaſurer, and kapiſlar kahiaſee or maſter

Camp || Campaign.

maſter of the ceremonies. In the middle of theſe tents is a ſpacious field, wherein are erected a building for the divan, and a hafna or treaſury. When the ground is marked out for a camp, all wait for the pitching of the tent *tailac*, the place where the courts of juſtice are held; it being the diſpoſition of this that is to regulate all the reſt.

The Arabs ſtill live in camps, as the ancient Scenites did. The camp of the Aſſyne Emir, or king of the country about Tadmor, is deſcribed by a traveller who viewed it, as ſpread over a very large plain, and poſſeſſing ſo vaſt a ſpace, that though he had the advantage of a riſing ground, he could not ſee the utmoſt extent of it. His own tent was near the middle; ſcarce diſtinguiſhable from the reſt, except that it was bigger, being made, like the others, of a ſort of hair-cloth.

Camp, is alſo uſed by the Siameſe, and ſome other nations in the Eaſt Indies, as the name of the quarters which they aſſign to foreigners who come to trade with them. In theſe camps, every nation forms, as it were, a particular town, where they carry on all their trade, not only keeping all their warehouſes and ſhops there, but alſo live in theſe camps with their whole families. The Europeans, however, are ſo far indulged, that at Siam, and almoſt every where elſe, they may live either in the cities or ſuburbs, as they ſhall judge moſt convenient.

Camp fight, or *Kamf fight*, in law writers, denotes the trial of a cauſe by duel, or a legal combat of two champions in the field, for deciſion of ſome controverſy.

In the trial by camp fight, the accuſer was, with the peril of his own body, to prove the accuſed guilty; and by offering him his glove, to challenge him to this trial, which the other muſt either accept of, or acknowledge himſelf guilty of the crime whereof he was accuſed.

If it were a crime deſerving death, the camp fight was for life and death: if the offence deſerved only impriſonment, the camp fight was accompliſhed when one combatant had ſubdued the other, ſo as either to make him yield or take him priſoner. The accuſed had liberty to chooſe another to fight in his ſtead, but the accuſer was obliged to perform it in his own perſon, and with equality of weapons. No women were permitted to be ſpectators, nor men under the age of thirteen. The prieſt and the people who looked on, were engaged ſilently in prayer, that the victory might fall to him who had right. None might cry, ſhriek, or give the leaſt ſign; which in ſome places was executed with ſo much ſtrictneſs, that the executioner ſtood ready with an axe to cut off the right hand or foot of the party that ſhould offend herein.

He that, being wounded, yielded himſelf, was at the other's mercy either to be killed or ſuffered to live. But if life were granted him, he was declared infamous by the judge, and diſabled from ever bearing arms, or riding on horſeback.

CAMPAGNA. See Campania.

CAMPAIGN, in the art of war, denotes the ſpace of time that an army keeps the field, or is encamped.—The beginning of every campaign is conſiderably more unhealthy than if the men were to remain in quarters. After the firſt fortnight or three weeks encampment, the ſickneſs decreaſes daily; the moſt infirm being by that time in the hoſpitals, and the weather daily growing warmer. This healthy ſtate continues throughout the ſummer, unleſs the men get wet clothes or wet beds; in which caſe, a greater or leſs degree of the dyſentery will appear in proportion to the preceding heats. But the moſt ſickly part of the campaign begins about the middle or end of Auguſt, whilſt the days are ſtill hot, but the nights cool and damp, with fogs and dews: then, and not ſooner, the dyſentery prevails; and though its violence is over by the beginning of October, yet the remitting fever gaining ground, continues throughout the reſt of the campaign, and never entirely ceaſes, even in winter quarters, till the froſts begin. At the beginning of a campaign the ſickneſs is ſo uniform, that the number may be nearly predicted; but for the reſt of the ſeaſon, as the diſeaſes are then of a contagious nature, and depend ſo much upon the heats of ſummer, it is impoſſible to foreſee how many may fall ſick from the beginning to the end of autumn. It is alſo obſerved, that the laſt fortnight of a campaign, if protracted till the beginning of a campaign, is attended with more ſickneſs than the firſt two months encampment: ſo that it is better to take the field a fortnight ſooner, in order to return into winter-quarters ſo much the earlier. As to winter expeditions, though ſevere in appearance, they are attended with little ſickneſs, if the men have ſtrong ſhoes, quarters, fuel, and proviſions. Long marches in ſummer are not without danger, unleſs made in the night, or ſo early in the morning as to be over before the heat of the day.

Campanaceæ || Campania.

CAMPANACEÆ, in botany, an order of plants in the *Fragmenta methodi naturalis* of Linnæus, in which are the following genera, viz. convolvulus, ipomæa, polemonium, campanula, roella, viola, &c. *

* See Botany, p. 462.

CAMPANELLA (Thomas,) a famous Italian philoſopher, born at Stilo in Calabria, in 1568. He diſtinguiſhed himſelf by his early proficiency in learning; for at the age of 13 he was a perfect maſter of the ancient orators and poets. His peculiar inclination was to philoſophy, to which he at laſt confined his whole time and ſtudy. In order to arrive at truth, he ſhook off the yoke of authority: by which means the novelty of ſome of his opinions expoſed him to many inconveniences; for at Naples he was thrown into priſon, in which he remained 27 years, and during this confinement wrote his famous work entitled *Atheiſmus triumphatus*. Being at length ſet at liberty, he went to Paris, where he was graciouſly received by Louis XIII. and cardinal Richelieu; the latter procured him a penſion of 2000 livres, and often conſulted him on the affairs of Italy. Campanella paſſed the remainder of his days in a monaſtery of Dominicans at Paris, and died in 1639.

CAMPANI (Matthew) of Spoletto, curate at Rome, wrote a curious treatiſe on the art of cutting glaſſes foe ſpectacles, and made ſeveral improvements in optics, aſſiſted by his brother and pupil Joſeph. He died after 1678.

CAMPANIA, a town of Italy, in the kingdom of Naples, and in the farther principato, with a biſhop's ſee. E. Long. 15. 30. N. Lat. 40. 40.

Campania or *Campagna di Roma*, anciently Latium, a province of Italy, bounded on the weſt by the

Campania. Tiber and the ſea, on the ſouth-weſt by the ſea, on the ſouth by Terra di Lavoro, on the eaſt by Abruzzo, and on the north by Sabina. Though the ſoil is good, it produces little or nothing, on account of the heavy duties on corn; and though the waters are good, the air is unwholeſome. It is ſubject to the Pope, and is about 60 miles in length on the Mediterranean ſea.

It hath been generally thought that the air of this country hath ſomething in it peculiarly noxious during the ſummer-time; but Mr Condamine is of opinion that it is not more unhealthy than any other marſhy country. His account follows. "It was after the invaſion of the Goths in the fifth and ſixth centuries that this corruption of the air began to manifeſt itſelf. The bed of the Tiber being covered by the accumulated ruins of the edifices of ancient Rome, could not but raiſe itſelf conſiderably. But what permits us not to doubt of this fact is, that the ancient and well-preſerved pavement of the Pantheon and its portico is overflowed every winter; that the water even riſes there ſometimes to the height of eight or ten feet; and that it is not poſſible to ſuppoſe that the ancient Romans ſhould have built a temple in a place ſo low as to be covered with the waters of the Tiber on the leaſt inundation. It is evident, then, that the level of the bed of this river is raiſed ſeveral feet; which could not have happened without forming there a kind of dikes or bars. The choaking up of its canal neceſſarily occaſioned the overflow and reflux of its waters in ſuch places as till then had not been ſubject to inundations: to theſe overflowings of the Tiber were added all the waters that eſcaped out of the ancient aqueducts, the ruins of which are ſtill to be ſeen, and which were entirely broken and deſtroyed by Totila. What need, therefore, of any thing more to infect the air, in a hot climate, than the exhalations of ſuch a maſs of ſtagnating waters, deprived of any diſcharge, and become the receptacle of a thouſand impurities, as well as the grave of ſeveral millions both of men and animals? The evil could not but increaſe from the ſame cauſes while Rome was expoſed to the incurſions and devaſtations of the Lombards, the Normans, and the Saracens, which laſted for ſeveral centuries. The air was become ſo infectious there at the beginning of the 13th century, that Pope Innocent III. wrote, that few people at Rome arrived to the age of forty years, and that nothing was more uncommon there than to ſee a perſon of ſixty. A very ſhort time after, the popes transferred the ſeat of their reſidence to Avignon: during the ſeventy-two years they remained there, Rome became a deſert; the monaſteries in it were converted into ſtables; and Gregory XI. on his return to Rome, in 1376, hardly counted there 30,000 inhabitants. At his death began the troubles of the great ſchiſm in the weſt, which continued for upwards of 50 years. Martin V. in whom this ſchiſm ended in the year 1429, and his firſt ſucceſſors, were able to make but feeble efforts againſt ſo inveterate an evil. It was not till the beginning of the 16th century that Leo X. under whom Rome began to reſume her wonted ſplendor, gave himſelf ſome trouble about re-eſtabliſhing the ſalubrity of the air: but the city, being ſhortly after beſieged twice ſucceſſively by the emperor Charles V. ſaw itſelf plunged again into all its old calamities; and from 85,000 inhabitants, which it contained under Leo X. it was reduced under Clement VIII. to 32,000. In ſhort, it is only ſince the time of Pius V. and Sextus V. at the end of the 16th century, that the popes have conſtantly employed the neceſſary methods for purifying the air of Rome and its environs, by procuring proper diſcharges for the waters, drying up the humid and marſhy grounds, and covering the banks of the Tiber and other places reputed uninhabitable with ſuperb edifices. Since that time a perſon may dwell at Rome, and go in or out of it at all ſeaſons of the year. At the beginning, however, of the preſent century, they were ſtill afraid to lie out of the city in ſummer, when they had reſided there; as they were alſo to return to it, when once they had quitted it. They never ventured to ſleep at Rome, even in broad day, in any other houſe than their own. They are greatly relaxed at preſent from theſe ancient ſcruples: I have ſeen cardinals, in the months of July and Auguſt, go from Rome to lie at Fraſcati, Tivoli, Albano, &c. and return the next or the following days to the city, without any detriment to their health: I have myſelf tried all theſe experiments, without ſuffering the leaſt inconvenience from them: we have even ſeen, in the laſt war in Italy, two armies encamped under the walls of Rome at the time when the heats were moſt violent. Yet, notwithſtanding all this, the greater part of the country people dare not ſtill venture to lie during that ſeaſon of the year, nor even as much as ſleep in a carriage, in any part of the territory comprehended under the name of the *Campagna of Rome*."

Campaniform is Campanulate.

CAMPANIFORM, or CAMPANULATED, an appellation given to flowers reſembling a bell.

CAMPANINI, a name given to an Italian marble dug out of the mountains of Carrara, becauſe, when it is worked, it ſounds like a bell.

CAMPANULA, or BELL-FLOWER; A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 29th order, *Campanaceæ*. The corolla is campanulated, with its fundus cloſed up by the valves that ſupport the ſtamina; the ſtigma is trifid; the capſule inferior, or below the receptacle of the flower, opening and emitting the ſeeds by lateral pores.

Species. Of this genus there are no fewer than 41 ſpecies enumerated by botanical writers; but the following are the moſt worthy of attention. 1. The pyramidalis hath thick tuberous roots filled with a milky juice; it ſends out ſtrong, ſmooth, upright ſtalks, which riſe to the height of four feet, garniſhed with ſmooth oblong leaves a little indented at the edges. The flowers are produced from the ſide of the ſtalks, and are regularly ſet on for more than half their length, forming a ſort of pyramid; theſe are large, open, and ſhaped like a bell. The moſt common colour of the flowers is blue, though ſome are white, but the former are moſt eſteemed. 2. The decurrens, or peach-leaved bell-flower, is a native of the northern parts of Europe: of this there are ſome with white, and ſome with blue flowers, and ſome with double flowers of both colours. Theſe laſt have of late been propagated in ſuch abundance as to have almoſt baniſhed from the gardens thoſe with ſingle flowers. 3. The medium, commonly called *Canterbury bell-flower*, is a biennial plant, which periſhes ſoon after it has ripened its ſeeds. It grows naturally in the woods of Italy and Auſtria; but is cul-

Campanula. cultivated in the Britiſh gardens for the beauty of its flowers, which are blue, purple, white, and ſtriped, with double flowers of all the colours. This ſpecies hath oblong, rough, hairy, leaves, ſerrated on their edges: from the centre of theſe riſes a ſtiff, hairy, furrowed ſtalk, about two feet high, ſending out ſeveral lateral branches, garniſhed with long, narrow, hairy leaves ſawed on their edges. From the ſetting on of theſe leaves proceed the footſtalks of the flower; thoſe which are on the lower part of the ſtalk and branches diminiſhing gradually in their length upward, and thereby forming a ſort of pyramid. The flowers of this kind are very large, ſo make a fine appearance. The ſeeds ripen in September, and the plants decay ſoon after. 4. The trachelium, with nettle leaves, hath a perennial root, which ſends up ſeveral ſtiff hairy ſtalks having two ribs or angles. Theſe put out a few ſhort ſide-branches, garniſhed with oblong hairy leaves deeply ſawed on their edges. Toward the upper part of the ſtalks, the flowers come out alternately upon ſhort trifid foot-ſtalks having hairy empalements. The colours of the flowers are a deep and a pale blue and white, with double flowers of the ſame; the double-flowered kind only merit a place in gardens. 5. The latifolia, or greateſt bell-flower, hath a perennial root, compoſed of many fleſhy fibres that abound with a milky juice. From theſe ariſe ſeveral ſtrong, round ſingle ſtalks, which never put out branches, but are garniſhed with oval ſpear-ſhaped leaves ſlightly indented on their edges. Towards the upper part of the ſtalk the flowers come out ſingly upon ſhort foot-ſtalks; their colours are blue, purple, and white. 6. The rapunculus, or rampion, hath roundiſh fleſhy roots, which are eatable, and much cultivated in France for ſallads; ſome years paſt it was cultivated in the Engliſh gardens for the ſame purpoſe, but is now generally neglected. It is a native of Britain; but the roots of the wild ſort never grow to half the ſize of thoſe which are cultivated. 7. The ſpeculum, with yellow eye-bright leaves, is an annual plant with ſlender ſtalks riſing a foot high, branching out on every ſide, and garniſhed with oblong leaves a little curled on their edges; from the wings of the leaves come out the flowers ſitting cloſe to the ſtalks, which are of a beautiful purple inclining to a violet colour. In the evening, they contract and fold into a pentagonal figure; from whence it is by ſome called *viola pentagonia*, or *five-cornered violet*. 8. The hybrida, or common Venus looking-glaſs. This ſeldom riſes more than ſix inches high, with a ſtalk branching from the bottom upward, and garniſhed with oval leaves ſitting cloſe to the ſtalks, from the baſe of which the branches are produced, which are terminated by flowers very like the former ſort. This was formerly cultivated in the gardens: but ſince the former kind hath been introduced, it hath almoſt ſupplanted this; for the other is a much taller plant, and the flowers larger, though of a leſs beautiful colour. 9. The canarienſis, with an orach leaf and tuberous root, is a native of the Canary iſlands. It hath a thick fleſhy root of an irregular form; ſometimes running downward like a parſnip, at other times dividing into ſeveral knobs near the top; and when any part of the root is broken, there iſſues out a milky juice at the wound. From the head or crown of the root ariſe one, two, three, or more ſtalks, in proportion to the ſize of the root; but that in the centre is generally larger, and riſes higher, than the others. Theſe ſtalks are very tender, round, and of a pale green; their joints are far diſtant from each other; and when the roots are ſtrong, the ſtalks will riſe to ten feet high, ſending out ſeveral lateral branches. At each joint they are garniſhed with two, three, or four ſpear-ſhaped leaves, with a ſharp pointed beard on each ſide. They are of a ſea-green; and, when they firſt come out, are covered ſlightly with an aſh-coloured pounce. From the joints of the ſtalk the flowers are produced, which are of the perfect bell-ſhape, and hang downward; they are of a flame-colour, marked with ſtripes of a browniſh red: the flower is divided into five parts; at the bottom of each is ſeated a nectarium, covered with a white tranſparent ſkin, much reſembling thoſe of the crown imperial, but ſmaller. The flowers begin to open in the beginning of October, and there is often a ſucceſſion of them till March. The ſtalks decay to the root in June, and new ones ſpring up in Auguſt. Campanula.

Culture, &c. The firſt ſort is cultivated to adorn halls, and to place before chimnies in the ſummer when it is in flower, for which purpoſe there is no plant more proper; for when the roots are ſtrong, they will ſend out four or five ſtalks which will riſe as many feet high, and are adorned with flowers a great part of their length. When the flowers begin to open, the pots are removed into the rooms, where, being ſhaded from the ſun and rain, the flowers will continue long in beauty; and if the pots are every night removed into a more airy ſituation, but not expoſed to heavy rains, the flowers will be fairer, and continue much longer in beauty. Thoſe plants which are thus treated, are ſeldom fit for the purpoſe the following ſeaſon; therefore a ſupply of young ones muſt be annually raiſed. The plant may be propagated either by dividing the roots or by ſeeds, but the latter produce the moſt vigorous and beſt flowering plants. The ſeeds muſt be ſown in autumn in boxes or pots filled with light undunged earth, and placed in the open air till the froſt or hard rains come on: then they muſt be placed under a hot-bed frame, where they may be ſheltered from both; but in mild weather the glaſſes ſhould be drawn off every day, that they may enjoy the free air: with this management the plants will come up early in the ſpring, and then they muſt be removed out of the frame, placing them firſt in a warm ſituation; but, when the ſeaſon becomes warm, they ſhould be ſo placed as to have the morning ſun only. In September the leaves of the plants will begin to decay, at which time they ſhould be tranſplanted; therefore there muſt be one or two beds prepared, in proportion to the number of plants. Theſe beds muſt be in a warm ſituation, and the earth light, ſandy, and without any mixture of dung. The plants muſt then be taken out of the pots or caſes very carefully, ſo as not to bruiſe their roots; for they are very tender, and on being broken the milky juice will flow out plentifully, which will greatly weaken them. Theſe ſhould be planted at about ſix inches diſtance each way, with the head or crown of the root half an inch below the ſurface. If the ſeaſon proves dry, they muſt be gently watered three or four days after they are planted; the beds ſhould alſo be covered with mats in the day time, but

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Campanula. which ſhould be taken off at night to let the dew fall on the plants. Towards the end of November the beds ſhould be covered over with ſome old tanners bark to keep out the froſt; and where there is not conveniency for covering them with frames, they ſhould be arched over with hoops, that in ſevere weather they may be covered with mats. In the ſpring the mats muſt be removed, and, the following ſummer, the plants kept free from weeds. In autumn the earth ſhould be ſtirred between them, ſome freſh earth ſpread over the beds, and the plants covered in winter as before. In theſe beds the plants may remain two years, during which time they are to be treated in the manner before directed. The roots will now be ſtrong enough to flower; ſo, in September they ſhould be carefully taken up, and ſome of the moſt promiſing carefully planted in pots; the others may be planted in warm borders, or in a freſh bed, at a greater diſtance than before, to allow them room to grow. Thoſe plants which are potted ſhould be ſheltered in winter from great rains and hard froſts, otherwiſe they will be in danger of rotting, or at leaſt will be ſo weakened as not to flower with any ſtreogth the following ſummer; and thoſe which are planted in the full ground, ſhould have ſome old tanners bark laid round them to prevent the froſt from getting at the roots. The ſecond, third, fourth, and fifth ſorts are ſo eaſily propagated by parting the roots, or by ſeeds, that no particular directions for their culture need be given. The ſixth ſort, which is cultivated for its eſculent roots, may be propagated by ſeeds, which are to be ſown in a ſhady border; and when the plants are about an inch high, the ground ſhall be hoed as is practiſed for onions, to eat up the weeds, and thin the plants, to the diſtance of three or four inches; and when the weeds come up again they muſt be hoed over to deſtroy them: this, if well performed in dry weather, will make the ground clean for a long time; ſo that, being three times repeated, it will keep the plants clean till winter, which is the ſeaſon for eating the roots, when they may be taken up for uſe as wanted. They will continue good till April, at which time they ſend out their ſtalks, when the roots become hard and unfit for uſe.—The ſeventh and eighth ſorts are eaſily propagated by ſeeds, which they produce in plenty. If theſe, and the Venus navelwort, dwarf lychnis, candy-tuft, and other low annual flowers, are properly mixed in the border of the flower-garden, and ſown at two or three different ſeaſons, ſo as to have a ſucceſſion of them in flower, they will make an agreeable variety. If theſe ſeeds are ſown in autumn, the plants will flower early in the ſpring; but if ſown in the ſpring, they will not flower till the middle of June; and if a third ſowing is performed about the middle of May, the plants will flower in Auguſt; but from theſe, good ſeeds muſt not be expected.—The ninth ſort is propagated by parting the roots, which muſt be done with caution: for if they are broken or wounded, the milky juice will flow out plentifully; and if planted before the wounds are ſkinned over, it occaſions their rotting: therefore when any of them are broken, they ſhould be laid in the green-houſe a few days to heal. Theſe roots muſt not be too often parted, if they are expected to flower well; for by this means they are weakened. The beſt time for tranſplanting and parting their roots is in July, ſoon after the ſtalks are decayed. They muſt not be planted in rich earth, otherwiſe they will be very luxuriant in branches, and have but few flowers. They ſucceed beſt in a light ſandy loam, mixed with a fourth part of ſcreened lime-rubbiſh: when the roots are firſt planted the pots ſhould be placed in the ſhade, and unleſs the ſeaſon is very dry they ſhould not be watered; for during the time they are inactive, wet is very injurious to them. About the middle of Auguſt, the roots will begin to put out fibres; at which time, if the pots are placed under a hot-bed frame, and, as the nights grow cool, covered with the glaſſes, but opened every day to enjoy the free air, it will greatly forward them for flowering, and increaſe their ſtrength: when the ſtalks appear, they muſt be now and then refreſhed with water; but it muſt not be given too often, nor in too great quantity. The plants thus managed, by the middle of September will have grown ſo tall as not to be kept any longer under the glaſs frame; they muſt, therefore, be removed into a dry airy glaſs-caſe, where they may enjoy the free air in mild weather, but ſcreened from the cold. During the winter ſeaſon they muſt be frequently refreſhed with water, and guarded from froſt; and, in the ſpring, when the ſtalks begin to decay, the pots ſhould be ſet abroad in the ſhade, and not watered. Campbell.

CAMPBELL (Archibald), earl and marquis of Argyle, was the ſon of Archibald earl of Argyle, by the lady Anne Douglaſs, daughter of William earl of Morton. He was born in the year 1598; and educated in the profeſſion of the Proteſtant religion, according to the ſtricteſt rules of the church of Scotland, as it was eſtabliſhed immediately after the reformation. During the commonwealth he was induced to ſubmit to its authority. Upon the reſtoration, he was tried for his compliance; a crime common to him with the whole nation, and ſuch a one as the moſt loyal and affectionate ſubject might frequently by violence be induced to commit. To make this compliance appear the more voluntary and hearty, there were produced in court letters which he had wrote to Albemarle, while that general governed Scotland, and which contained expreſſions of the moſt cordial attachment to the eſtabliſhed government. But, beſides the general indignation excited by Albemarle's diſcovery of this private correſpondence, men thought, that even the higheſt demonſtrations of affection might, during jealous times, be exacted as a neceſſary mark of compliance from a perſon of ſuch diſtinction as Argyle; and could not, by any equitable conſtruction, imply the crime of treaſon. The parliament, however, ſcrupled not to paſs ſentence upon him, and he ſuffered with great conſtancy and courage.

Campbell (Archibald), earl of Argyle, ſon to the former, had from his youth diſtinguiſhed himſelf by his loyalty and his attachment to the royal family. Though his father was head of the covenanters, he himſelf refuſed to concur in any of their meaſures; and when a commiſſion of colonel was given him by the convention of ſtates, he forbore to act upon it till it ſhould be ratified by the king. By his reſpectful behaviour, as well as by his ſervices, he made himſelf acceptable to Charles when that prince was in Scotland and even after the battle of Worceſter, all the misfortunes which attended the royal cauſe could not engage him to deſert it. Under-

Campbell. der Middeton he obſtinately perſevered to haraſs and inſeſt the victorious Engliſh; and it was not till he received orders from that general, that he would ſubmit to accept of a capitulation. Such jealouſy of his loyal attachments was entertained by the commonwealth and protector, that a pretence was ſoon after fallen upon to commit him to priſon; and his confinement was rigorouſly continued till the reſtoration. The king, ſenſible of his ſervices, had remitted to him his father's forfeiture, and created him earl of Argyle; and when a moſt unjuſt ſentence was paſſed upon him by the Scots parliament, Charles had anew remitted it. In the ſubſequent part of this reign Argyle behaved himſelf dutifully; and though he ſeemed not diſpoſed to go all lengths with the court, he always appeared, even in his oppoſition, a man of mild diſpoſitions and peaceable deportment.

A parliament was ſummoned at Edinburgh in ſummer 1681, and the duke was appointed commiſſioner. Beſides granting money to the king, and voting the indefeaſible right of ſucceſſion, this parliament enacted a teſt, which all perſons poſſeſſed of offices, civil, military, or eccleſiaſtical, were bound to take. In this teſt the king's ſupremacy was aſſerted, the covenant renounced, paſſive obedience aſſented to, and all obligations diſclaimed of endeavouring any alteration in civil or eccleſiaſtical eſtabliſhments. This was the ſtate of the teſt as propoſed by the courtiers; but the country party propoſed alſo a clauſe of adherence to the Proteſtant religion, which could not with decency be rejected. The whole was of an enormous length, conſidered as an oath; and, what was worſe, a confeſſion of faith was there ratified which had been impoſed a little after the reformation, and which contained many articles altogether forged by the parliament and nation. Among others, the doctrine of reſiſtance was inculcated; ſo that the teſt being voted in a hurry, was found on examination to be a medley of abſurdity and contradiction. Though the courtiers could not reject the clauſe of adhering to the Proteſtant religion, they propoſed, as a requiſite mark of reſpect, that all princes of the blood ſhould be exempted from taking that oath. This exception was zealouſly oppoſed by Argyle; who obſerved that the ſole danger to be dreaded for the Proteſtant religion muſt proceed from the perverſion of the royal family. By inſiſting on ſuch topics, he drew on himſelf the ſecret indignation of the duke of York, of which he ſoon felt the fatal conſequences.

When Argyle took the teſt as a privy counſellor, he ſubjoined, in the duke's preſence, an explanation which he had before hand communicated to that prince, and which he believed to have been approved by him. It was in theſe words. "I have conſidered the teſt, and am very deſirous of giving obedience as far as I can. I am confident that the parliament never intended to impoſe contradictory oaths: therefore I think no man can explain it but for himſelf. Accordingly I take it as far as it is conſiſtent with itſelf and the Proteſtant religion. And I do declare that I mean not to bind myſelf, in my ſtation, and in a lawful way, from wiſhing and endeavouring any alteration, which I think to the advantage of church or ſtate, and not repugnant to the Proteſtant religion and my loyalty: and this I underſtand as a part of my oath." The duke, as was natural, heard it with great tranquillity: no one took the leaſt offence: Argyle was admitted to ſit that day in council: and it was impoſſible to imagine that a capital offence had been committed where occaſion ſeemed not to have been given ſo much as for a frown or reprimand. Campbell.

Argyle was much ſurpriſed a few days after, to find that a warrant was iſſued for committing him to priſon; that he was indicted for high treaſon, leaſing-making, and perjury; and that from the innocent words abovementioned an accuſation was extracted, by which he was to forfeit life, honours, and fortune. It is needleſs to enter into particulars, where the iniquity of the whole is ſo evidently apparent. Though the ſword of juſtice was diſplayed, even her ſemblance was not put on; and the forms of law were preſerved to ſanctify, or rather aggravate, the oppreſſion. Of five judges, three did not ſcruple to find the guilt of treaſon and leaſing-making to be incurred by the priſoner: a jury of 15 noblemen gave verdict againſt him; and the king being conſulted, ordered the ſentence to be pronounced, but the execution of it to be ſuſpended till further orders. Argyle, however, ſaw no reaſon to truſt to the juſtice or mercy of ſuch enemies: He made his eſcape from priſon, and till he could find a ſhip for Holland he concealed himſelf during ſome time in London. The king heard of his lurking place, but would not ſuffer him to be arreſted. All the parts, however, of his ſentence, ſo far as the government in Scotland had power, were rigorouſly executed; his eſtate confiſcated, his arms reverſed and torn. Having got over to Holland, he remained there during the remaining part of the reign of Charles II. But thinking himſelf at liberty, before the coronation of James II. to exert himſelf in order to recover the conſtitution by force of arms, he concerted meaſures with the duke of Monmouth, and went into Scotland, to aſſemble his friends: but not meeting with the ſucceſs he expected, he was taken priſoner; and being carried to Edinburgh, was beheaded upon his former unjuſt ſentence, June 30, 1685. He ſhowed great conſtancy and courage under his misfortunes: on the day of his death he ate his dinner very cheerfully: and, according to cuſtom, ſlept after it a quarter of an hour or more, very ſoundly. At the place of execution, he made a ſhort, grave, and religious ſpeech; and, after ſolemnly declaring that he forgave all his enemies, ſubmitted to death with great firmneſs.

Campbell (Archibald), firſt duke of Argyle, ſon to the preceding, was an active promoter of the revolution. He came over with the Prince of Orange; was admitted into the convention as Earl of Argyle, tho' his father's attainder was not reverſed; and in the claim of rights the ſentence againſt him was declared to be, what moſt certainly it was, a reproach upon the nation. The eſtabliſhment of the crown upon the Prince and Princeſs of Orange being carried by a great majority in the Scottiſh convention, the earl was ſent from the nobility, with Sir James Montgomery and Sir John Dalrymple from the barons and boroughs, to offer the crown, in the name of the convention, to their Majeſties, and tendered them the coronation oath; for which, and many other eminent ſervices, he was admitted a member of the privy council, and, in 1690, made one of the Lords of the Treaſury. He was afterwards

Campbell. terwards made a colonel of the Scots horſe guards; and, in 1694, one of the extraordinary Lords of Seſſion. He was likewiſe created Duke of Argyle, Marquis of Kintyre and Lorn, Earl of Campbell and Cowell, Viſcount of Lochow and Glengla, Lord Inverary, Mull, Morvern, and Terrey, by letters-patent, bearing date at Kenſington the 23d of June 1701. He ſent over a regiment to Flanders for king William's ſervice, the officers of which were chiefly of his own name and family, who bravely diſtinguiſhed themſelves through the whole courſe of the war. He married Elizabeth, daughter of Sir Lionel Talmaſh of Helmingham in the county of Suffolk, by Elizabeth duchefs of Lauderdale his wife, daughter and heir of William Murray earl of Dyſart, by whom he left iſſue two ſons and a daughter; namely, John duke of Argyle, the ſubject of the next article; Archibald, who ſucceeded his brother as Duke of Argyle; and Lady Anne, married to James Stuart, ſecond earl of Bute, by whom ſhe had the preſent earl.

Campbell (John), ſecond duke of Argyle, and alſo duke of Greenwich and baron of Chatham, ſon to the ſubject of the preceding article, was born on the 10th of October 1680; and, on the very day when his grandfather ſuffered at Edinburgh, fell out of a window three pair of ſtairs high without receiving any hurt. At the age of 15, he had made a conſiderable progreſs in claſſical learning. His father then perceived and encouraged his military diſpoſition, and introduced him to king William, who in the year 1694 gave him the command of a regiment. In this ſituation he remained till the death of his father in 1703; when becoming duke of Argyle, he was ſoon after ſworn of queen Anne's privy council, made captain of the Scotch horſe guards, and appointed one of the extraordinary lords of ſeſſion. In 1704, her Majeſty reviving the Scottiſh order of the thiſtle, his grace was inſtalled one of the knights of that order, and was ſoon after appointed high-commiſſioner to the Scotch parliament; where, being of great ſervice in promoting the intended union, he was on his return created a peer of England, by the titles of *baron of Chatham* and *earl of Greenwich*, and in 1710 was made knight of the garter. His grace firſt diſtinguiſhed himſelf in his military capacity at the battle of Oudenard; where he commanded as brigadier-general, with all the bravery of youth and the conduct of a veteran officer. He was preſent under the duke of Marlborough at the ſiege of Ghent, and took poſſeſſion of the town. He had alſo a conſiderable ſhare in the victory obtained over the French at the battle of Malplaquet, by diſlodging them from the wood of Sart, and gaining a poſt of great conſequence. In this ſharp engagement, ſeveral muſket-balls paſſed through the duke's clothes, hat, and peruke. Soon after this hot action, he was ſent to take the command in Spain; and after the reduction of Port Mahon, he returned to England. His grace having now a ſeat in the houſe of lords, he cenſured the meaſures of the miniſtry with ſuch freedom, that all his places were diſpoſed of to other noblemen: but at the acceſſion of George I. he recovered his influence. At the breaking out of the rebellion in 1715, he was made commander in chief of his majeſty's forces in North Britain; and was the principal means and cauſe of the total extinction, at that time, of the rebellion in Scotland, without much bloodſhed. In direct oppoſition to him, or that part of the army he commanded, at the head of all his Campbells was placed Campbell earl of Braidalbin, of the ſame family and kindred, by ſome fatal error that ever miſguided and miſled that unhappy family of the Stuarts and all its adherents. The conſequence was, that both ſets of Campbells, from family affection, refuſed to ſtrike a ſtroke, and retired out of the battle. He arrived at London March 6th 1716, and was in high favour: but, to the ſurpriſe of people of all ranks, he was in a few months diveſted of all his employments; and from this period to the year 1718, he ſignalized himſelf in a civil capacity, by his uncorrupted patriotiſm and manly eloquence. In the beginning of the year 1719, he was again admitted into favour, appointed lord-ſteward of the houſhold, and in April following was created duke of Greenwich. He continued in the adminiſtration during all the remaining part of that reign; and, after his late majeſty's acceſſion, till April 1740; when he delivered a ſpeech with ſuch warmth, that the miniſtry being highly offended, he was again diſmiſſed from his employments. To theſe, however, on the change of the miniſtry, he was ſoon reſtored; but not approving of the meaſures of the new miniſtry more than thoſe of the old, he gave up all his poſts for the laſt time, and never after engaged in affairs of ſtate. He now enjoyed privacy and retirement; and died of a paralytic diſorder on the 4th of October 1743. To the memory of his grace a very noble monument was erected in Weſtminſter-Abbey, executed by the ingenious Roubilliac.

The duke of Argyle, though never firſt miniſter, was a very able ſtateſman and politician, moſt ſteadily fixed in thoſe principles he believed to be right, and not to be ſhaken or changed. His delicacy and honour were ſo great, that it hurt him to be even ſuſpected; witneſs that application ſaid to be made to him by one of the adherents of the Stuart family before the laſt rebellion in order to gain his intereſt, which was conſiderable both in Scotland and England. He immediately ſent the letter to the ſecretary of ſtate; and it vexed him much even to have an application made him, leſt any perſon ſhould think him capable of acting a double part. When he thought meaſures wrong or corrupt, he cared not who was the author, however great or powerful he might be; witneſs his boldly attacking the great duke of Marlborough in the houſe of lords, about his forage and army contracts in Flanders, in the very zenith of his power and popularity, though in all other reſpects he was the moſt able general of his time. The duke of Argyle, on all occaſions, ſpoke well, with a firm, manly, and noble eloquence; and ſeems to deſerve the character given of him by Pope:

Argyle the ſtate's whole thunder born to wield,
And ſhake alike the ſenate and the field.

In private life, the duke's conduct was highly exemplary. He was an affectionate huſband and an indulgent maſter. He ſeldom parted with his ſervants till age had rendered them incapable of their employments; and then he made proviſion for their ſubſiſtence. He was liberal to the poor, and particularly to perſons of merit in diſtreſs: but though he was ready to patronize deſerving perſons, he was extremely cautious

Campbell tions not to deceive any by laviſh promiſes, or leading them to form vain expectations. He was a ſtrict œconomiſt, and paid his tradeſmen punctually every month; and though he maintained the dignity of his rank, he took care that no part of his income ſhould be waſted in empty pomp or unneceſſary expences. He was twice married; and left five daughters, but no male iſſue. The titles of duke and earl of Greenwich and baron of Chatham became extinct at his death; but in his other titles he was ſucceeded by his brother Archibald earl of Ila, the ſubject of the next article. Campbell.

Campbell (Archibald), third Duke of Argyle, brother to the ſubject of the preceding article, was born at Hamhouſe, in England, in June 1682, and was educated at the Univerſity of Glaſgow. He afterwards applied himſelf to the ſtudy of the law at Utrecht; but, upon his father's being created a Duke, he betook himſelf to a military life, and ſerved ſome time under the duke of Marlborough. Upon quitting the army, in which he did not long remain, he applied to the acquiſition of that knowledge which would enable him to make a figure in the political world. In 1705, he was conſtituted treaſurer of Scotland, and made a conſiderable figure in Parliament, though he was not more than twenty-three years of age. In 1706, he was appointed one of the commiſſioners for treating of the Union; and the ſame year was created Lord Oruſay, Dunoon, and Arrois, Viſcount and Earl of Iſlay. In 1708, he was made an extraordinary Lord of Seſſion; and when the Union was effected, he was choſen one of the Sixteen Peers for Scotland, in the firſt Parliament of Great-Britain; and was conſtantly elected to every future Parliament till his death, except the fourth. In 1710, he was made Juſtice-General of Scotland. In 1711, he was called to the privy council; and upon the acceſſion of George I. he was nominated lord regiſter of Scotland. When the rebellion broke out in 1715, he again betook himſelf to arms, in defence of the houſe of Hanover, and by his prudent conduct in the Weſt Highlands, he prevented General Gordon, at the head of three thouſand men, from penetrating into the country, and raiſing levies. He afterwards joined his brother at Stirling, and was wounded at the battle of Dumblain. In 1725, he was appointed keeper of the privy ſeal; and, from this time, he was entruſted with the management of Scottiſh affairs. In 1734, upon his reſigning the privy ſeal, he was made keeper of the great ſeal, which office he enjoyed till his death. Upon the deceaſe of his brother, he became duke of Argyle, hereditary juſtice general, lieutenant, ſheriff, and commiſſary of Argyleſhire and the Weſtern Iſles, hereditary great maſter of the houſhold, hereditary keeper of Dunſtaffnage, Carrick, and ſeveral other caſtles. He was alſo chancelor of the Univerſity of Aberdeen; and laboured to promote the intereſt of that, as well as of the other univerſities of Scotland. He particularly encouraged the ſchool of phyſic at Edinburgh, which has now acquired ſo high a reputation. Having the chief management of Scotch affairs, he was alſo extremely attentive to promote the trade, manufactures, and improvements of his country. It was by his advice that, after the rebellion in 1745, the Highlanders were employed in the royal army. He was a man of great endowments both natural and acquired, well verſed in the laws of his country, and poſſeſſed conſiderable parliamentary abilities. He was likewiſe eminent for his ſkill in human nature, had great talents for converſation, and had collected one of the moſt valuable private libraries in Great Britain. He built himſelf a very magnificent ſeat at Inverary. The faculties of his mind continued ſound and vigorous till his death, which happened ſuddenly on the 15th of April 1761, in the 79th year of his age. He was married, but had no iſſue; and was ſucceeded in his titles and the eſtates of the family by John Campbell, fourth duke of Argyle, ſon of the honourable John Campbell of Mammore, who was the ſecond ſon of Archibald the ninth earl of Argyle. Campbell.

The family of Argyle was hereditable juſtice-general for Scotland till aboliſhed by the juriſdiction act. They are ſtill heritable maſters of the king's houſhold in Scotland, and keepers of Dunſtaffnage and Carrick.

CAMPBELL (John), an eminent hiſtorical, biographical, and political writer, was born at Edinburgh, March 8, 1707-8. His father, Robert Campbell of Glenlynn, Eſq; was captain of horſe in a regiment commanded by the then earl of Hyndford; and his mother, Elizabeth, daughter of —— Smith, Eſq; of Windſor in Berkſhire, had the honour of claiming a deſcent from the poet Waller. Our author, their fourth ſon, was at the age of five years brought from Scotland to Windſor, where he received the firſt principles of his education; and at a proper age, he was placed out as clerk to an attorney, being intended for the law. This profeſſion, however, he never followed; but by a cloſe application to the acquiſition of knowledge of various kinds, became qualified to appear with great advantage in the literary world. In 1736, before he had completed his 30th year, he gave to the public, in two volumes folio, "The Military Hiſtory of Prince Eugene and the Duke of Marlborough," enriched with maps, plans, and cuts. The reputation hence acquired, occaſioned him ſoon after to be ſolicited to take a part in the "Ancient Univerſal Hiſtory." Whilſt employed in this capital work, Mr Campbell found leiſure to entertain the world with other productions. In 1739, he publiſhed the "Travels and Adventures of Edward Brown, Eſq;" 8vo. In the ſame year appeared his "Memoirs of the Baſhaw Duke de Ripperda," 8vo, reprinted, with improvements, in 1740. Theſe memoirs were followed, in 1741, by the "Conciſe Hiſtory of Spaniſh America," 8vo. In 1742, he was the author of "A Letter to a Friend in the Country, on the Publication of Thurloe's State Papers;" giving an account of their diſcovery, importance, and utility. The ſame year was diſtinguiſhed by the appearance of the 1ſt and 2d volumes of his "Lives of the Engliſh Admirals, and other eminent Britiſh Seamen." The two remaining volumes were completed in 1744; and the whole, not long after, was tranſlated into German. This was the firſt of Mr Campbell's works to which he prefixed his name; and it is a performance of great and acknowledged merit. In 1743, he publiſhed "Hermippus revived;" a ſecond edition of which, much improved and enlarged, came out in 1749, under the following title: "Hermippus Redivivus: or, the Sage's Triumph over old Age and the Grave. Wherein a method is laid down for prolonging the life and vigour of man. Including a Commentary upon an ancient Inſcription, in which this great ſecret is revealed; ſup-

ported

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ported by numerous authorities The whole interſperſed with a great variety of remarkable and well-atteſted relations." This extraordinary tract had its origin in a foreign publication; but it was wrought up to perfection by the additional ingenuity and learning of Mr Campbell. In 1744, he gave to the public in two volumes folio, his "Voyages and Travels," on Dr Harris's plan, being a very diſtinguiſhed improvement of that collection which had appeared in 1705. The time and care employed by Mr Campbell in this important undertaking, did not prevent his engaging in another great work, the "Biographia Britannica," which began to be publiſhed in weekly numbers in 1745, and extended to ſeven volumes folio; but our author's articles were only in the firſt four volumes; of which, Dr Kippis obſerves, they conſtitute the prime merit.

When the late Mr Dodſley formed the deſign of "The Preceptor," which appeared in 1748, Mr Campbell was to aſſiſt in the undertaking; and the parts written by him were the Introduction to Chronology, and the Diſcourſe on Trade and Commerce, both of which diſplayed an extenſive fund of knowledge upon theſe ſubjects In 1750, he publiſhed the firſt ſeparate edition of his "Preſent State of Europe;" a work which had been originally begun in 1746, in the "Muſeum," a very valuable periodical performance, printed for Dodſley. There is no production of our author's that hath met with a better reception. It has gone through ſix editions, and fully deſerved this encouragement. The next great undertaking which called for the exertion of our author's abilities and learning, was "The Modern Univerſal Hiſtory." This extenſive work was publiſhed, from time to time, in detached parts, till it amounted to 16 volumes folio; and a ſecond edition of it, in 8vo, began to make its appearance in 1759. The parts of it written by Mr Campbell were, the hiſtories of the Portugueze, Dutch, Spaniſh, French, Swediſh, Daniſh, and Oſtend Settlements in the Eaſt-Indies; and the Hiſtories of the Kingdoms of Spain, Portugal, Algarve, Navarre, and that of France, from Clovis to 1656. As our author had thus diſtinguiſhed himſelf in the literary world, the degree of LL.D. was very properly and honourably conferred upon him, June 18, 1754, by the univerſity of Glaſgow.

His principal and favourite work was, "A political ſurvey of Great Britain," 2 vol. 4to, publiſhed a ſhort time before his death; in which the extent of his knowledge, and his patriotic ſpirit, are equally conſpicuous. Dr Campbell's reputation was not confined to his own country, but extended to the remoteſt parts of Europe. As a ſtriking inſtance of this, it may be mentioned, that in the ſpring of 1774, the empreſs of Ruſſia was pleaſed to honour him with the preſent of her picture, drawn in the robes worn in that country in the days of John Baſiliowitz, grand duke of Muſcovy, who was contemporary with queen Elizabeth. To manifeſt the doctor's ſenſe of her imperial majeſty's goodneſs, a ſett of the "Political Survey of Britain," bound in Morocco, highly ornamented, and accompanied with a letter deſcriptive of the triumphs and felicities of her reign, was forwarded to St Peterſburg, and conveyed into her hands by prince Orloff, who had reſided ſome months in this kingdom.

Dr Campbell in 1736 married Elizabeth, daughter of Benjamine Vobe, of Leominſter, in the county of Hereford, gentleman, with whom he lived nearly 40 years in the greateſt conjugal harmony and happineſs. So wholly did he dedicate his time to books, that he ſeldom went abroad: but to relieve himſelf as much as poſſible from the inconveniences incident to a ſedentary life, it was his cuſtom, when the weather would admit, to walk in his garden; or otherwiſe in ſome room of his houſe, by way of exerciſe. By this method, united with the ſtricteſt temperance in eating, and an equal abſtemiouſneſs in drinking, he enjoyed a good ſtate of health, though his conſtitution was delicate. His domeſtic manner of living did not preclude him from a very extenſive and honourable acquaintance. His houſe, eſpecially on a Sunday evening, was the reſort of the moſt diſtinguiſhed perſons of all ranks, and particularly of ſuch as had rendered themſelves eminent by their knowledge or love of literature. He received foreigners, who were fond of learning, with an affability and kindneſs which excited in them the higheſt reſpect and veneration; and his inſtructive and cheerful converſation made him the delight of his friends in general. He was, during the latter part of his life, agent for the province of Georgia in North America; and died at the cloſe of the year 1775, in the 67th year of his age. The Doctor's literary knowledge was by no means confined to the ſubjects on which he more particularly treated as an author; he was well acquainted with the mathematics, and had read much in medicine. It hath been with great reaſon believed, that if he had dedicated his ſtudies to the laſt ſcience, he would have made a very conſpicuous figure in the phyſical profeſſion. He was eminently verſed in the different parts of ſacred literature; and his acquaintance with the languages extended not only to the Hebrew, Greek, and Latin among the ancient, and to the French, Italian, Spaniſh, Portugueſe, and Dutch, among the modern; but likewiſe to the Oriental tongues. He was particularly fond of the Greek language. His attainment of ſuch a variety of knowledge was exceedingly aſſiſted by a memory ſurpriſingly retentive, and which indeed aſtoniſhed every perſon with whom he was converſant. In communicating his ideas, he had an uncommon readineſs and facility; and the ſtyle of his works, which had been formed upon the model of that of the celebrated biſhop Sprat, was perſpicuous, eaſy, flowing, and harmonious. To all theſe accompliſhments of the underſtanding, Dr Campbell joined the more important virtues of a moral and pious character. His diſpoſition was gentle and humane, and his manners kind and obliging. He was the tendereſt of huſbands, a moſt indulgent parent, a kind maſter, a firm and ſincere friend. To his great Creator he paid the conſtant and ardent tribute of devotion, duty, and reverence; and in his correſpondences he ſhowed that a ſenſe of piety was always neareſt his heart.

Campbell Campbell's town.

CAMPBELLTOWN, a parliament town of Argyle-ſhire in Scotland, ſeated on the lough of Kilkerran, on the eaſtern ſhore of Kintyre or Cantyre, of which it is the capital. It hath a good harbour; and is now a very conſiderable place, though within theſe 50 years only a petty fiſhing town. It has in fact been created by the fiſhery: for it was appointed the

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place of rendezvous for the buſſes; and above 260 have been ſeen in the harbour at once. The inhabitants are reckoned to be upwards of 8000 in number. W. Long. 5. 10. N. Lat. 54.

CAMPDEN, a ſmall town of Glouceſterſhire in England, containing about 200 houſes. It gives title of Viſcount, by courteſy, to Earl of Gainſborough his ſon. W. Long. 1. 50. N. Lat. 52.

CAMPEACHY, a town of Mexico in South America, ſeated on the eaſt coaſt of a bay of the ſame name, on the weſt of the province of Yucatano. It is defended by a good wall and ſtrong forts; but is neither ſo rich, nor carries on ſuch a trade, as formerly; it having been the port for the ſale of logwood, the place where it is cut being about 30 miles diſtant. It was taken by the Engliſh in 1596; by the buccaneers in 1678; and by the Flibuſters of St Domingo in 1685, who ſet it on fire and blew up the citadel. W. Long. 93. 7. N. Lat. 19. 20.

Campeachy-Wood, in botany. See HÆMATOXYLUM.

CAMPEN, a ſtrong town of Overyſſel in the United Provinces. It hath a citadel and a harbour; but the latter is almoſt choked up with ſand. It was taken by the Dutch in 1578, and by the French in 1672; but they abandoned it the following year. It is ſeated near the mouth of the river Yſſel and Zuider See. E. Long. 5. 35. N. Lat. 52. 38.

CAMPESTRE, in antiquity, a ſort of cover for the privities, worn by the Roman ſoldiers in their field exerciſes; being girt under the navel, and hanging down to the knees. The name is ſuppoſed to be formed from *campus*, the field or place where the Roman ſoldiers performed their exerciſes.

CAMPHORA, or CAMPHIRE, a ſolid concrete juice extracted from the wood of the laurus camphora. See LAURUS, CHEMISTRY, and MATERIA MEDICA.

Pure camphire is very white, pellucid, ſomewhat unctuous to the touch; of a bitteriſh aromatic taſte, yet accompanied with a ſenſe of coolneſs; of a very fragrant ſmell, ſomewhat like that of roſemary, but much ſtronger. It has been very long eſteemed one of the moſt efficacious diaphoretics; and has been celebrated in fevers, malignant and epidemical diſtempers. In deliria, alſo, where opiates could not procure ſleep, but rather aggravated the ſymptoms, this medicine has often been obſerved to procure it. All theſe effects, however, Dr Cullen attributes to its ſedative property, and denies that camphire has any other medicinal virtues than thoſe of an antiſpaſmodic and ſedative. He allows it to be very powerful, and capable of doing much good or much harm. From experiments made on different brute creatures, camphire appears to be poiſonous to every one of them. In ſome it produced ſleep followed by death, without any other ſymptom. In others, before death, they were awakened into convulſions and rage. It ſeems, too, to act chiefly on the ſtomach; for an entire piece ſwallowed, produced the abovementioned effects with very little diminution of weight.

CAMPHUYSEN, (Dirk Theodore Raphael), an eminent painter, was born at Gorcum in 1586. He learned the art of painting from Diederic Guvertze; and by a ſtudious application to it, he very ſoon not only equalled, but far ſurpaſſed his maſter. He had an uncommon genius, and ſtudied nature with care, judgement, and aſſiduity. His ſubjects were landſcapes, Campians. moſtly ſmall, with ruinous buildings, huts of peaſants, or views of villages on the banks of rivers, with boats and hoys, and generally he repreſented them by moonlight. His pencil is remarkably tender and ſoft, his colouring true nature and very tranſparent, and his expertneſs in perſpective is ſeen in the proportional diſtances of his objects, which are excellently contrived, and have a ſurpriſing degree of nature and truth. As he left off painting at an age when others are ſcarcely qualified to commence artiſts, few of his work are to be met with, and they bring conſiderable prices; as they cannot but give pleaſure to the eye of every obſerver. He painted his pictures with a thin body of colour, but they are handled with ſingular neatneſs and ſpirit. He practiſed in his profeſſion only till he was 18 years of age, and being then recommended as a tutor to the ſons of the lord of Nieuport, he undertook the employment, and diſcharged it with ſo much credit, that he was appointed ſecretary to that nobleman. He excelled in drawing with a pen; and the deſigns which he finiſhed in that manner are exceedingly valued.

CAMPIAN (Edmund), an Engliſh Jeſuit, was born at London, of indigent parents, in the year 1540; and educated at Chriſt's hoſpital, where he had the honour to ſpeak an oration before queen Mary on her acceſſion to the throne. He was admitted a ſcholar of St John's college in Oxford at its foundation, and took the degree of maſter of arts in 1564. About the ſame time he was ordained by a biſhop of the church of England, and became an eloquent Proteſtant preacher. In 1566, when queen Elizabeth was entertained by the univerſity of Oxford, he ſpoke an elegant oration before her majeſty, and was alſo reſpondent in the philoſophy act in St Mary's church. In 1568, he was junior proctor of the univerſity. In the following year, he went over to Ireland, where he wrote a hiſtory of that kingdom, and turned papiſt; but being found rather too aſſiduous in perſuading others to follow his example, he was committed to priſon. He ſoon, however, found means to make his eſcape. He landed in England in 1571; and thence proceeded to Doway in Flanders, where he publicly recanted his former hereſy, and was created bachelor of divinity. He went ſoon after to Rome, where, in 1573, he was admitted of the ſociety of Jeſus, and was ſent by the general of that order to Vienna, where he wrote his tragedy called *Nectar et ambroſia*, which was acted before the emperor with great applauſe.

From Vienna he went to Prague in Bohemia, where he reſided in the Jeſuits college about ſix years, and then returned to Rome. From thence, in 1580, he was ſent by Pope Gregory XIII. with the celebrated Father Parſons, to convert the people of England. From Pitts we learn, that, ſome time before, ſeveral Engliſh prieſts, inſpired by the Holy Ghoſt, had undertaken to convert their countrymen; that 80 of theſe foreign ſeminaries, beſides ſeveral others who by God's grace had been converted in England, were actually engaged in the pious work with great ſucceſs; that ſome of them had ſuffered impriſonment, chains, tortures, and ignominious death, with becoming conſtancy and reſolution: but ſeeing at laſt that the labour was abundant and the labourers few, they ſolicited the aſſiſtance of the

Campian Campiſtron

Jeſuits; requeſting, that though not early in the morning, they would at leaſt in the third, ſixth, or ninth hour, ſend labourers into the Lord's vineyard. In conſequence of this ſolicitation, the above two were ſent to England. They arrived in an evil hour for Campian, at Dover; and were next day joyfully received by their friends at London. He had not been long in England, before Walſingham the ſecretary of ſtate, being informed of his uncommon aſſiduity in the cauſe of the church of Rome, uſed every means in his power to have him apprehended, but for a long time without ſucceſs. However, he was at laſt taken by one Elliot, a noted *prieſt-taker*, who found him in the houſe of Edward Yates, Eſq; at Lyford in Berkſhire, and conducted him in triumph to London, with a paper on his hat, on which was written *Campian the Jeſuit*. He was impriſoned in the Tower; where, Wood ſays, "he did undergo many examinations, abuſes, wrackings, tortures;" *exquiſitiſſimis cruciatibus tortus*, ſays Pitts. It is hoped, for the credit of our reformers, this torturing part of the ſtory is not true. The poor wretch, however, was condemned, on the ſtatute 25 Ed. III. for high treaſon; and hutchered at Tyburn, with two or three of his fraternity. Howſoever criminal in the eye of the law, or of the Engliſh goſpel, might be the zeal of this Jeſuit for the ſalvation of the poor heretics of this kingdom, biographers of each perſuaſion unite in giving him a great and amiable character. "All writers (ſays the Oxford antiquary), whether Proteſtants or Popiſh, ſay, that he was a man of admirable parts; an elegant orator, a ſubtile philoſopher and diſputant, and an exact preacher whether in Engliſh or the Latin tongue, of a ſweet diſpoſition, and a well-poliſhed man." Fuller, in his church-hiſtory, ſays, "he was of a ſweet nature, conſtantly carrying about him the charms of a plauſible behaviour, of a fluent tongue, and good parts." His Hiſtory of Ireland, in two books, was written in 1570; and publiſhed, by Sir James Ware, from a manuſcript in the Cotton library, Dublin, 1633, folio. He wrote alſo *Chronologia univerſalis*, a very learned work; and various other tracts.

CAMPICURSIO, in the ancient military art, a march of armed men for ſeveral miles, from and back again to the camp, to inſtruct them in the military pace. This exerciſe was nearly akin to the *decurſio*, from which it only differed, in that the latter was performed by horſemen, the former alſo by foot.

CAMPIDOCTORES, or CAMPIDUCTORES, in the Roman army, were officers who inſtructed the ſoldiery in the diſcipline and exerciſes of war, and the art of handling their weapons to advantage. Theſe are alſo ſometimes called *campigeni*, and *armidoctores*.

CAMPIDUCTOR, in middle-age writers, ſignifies the leader or commander of an army, or party.

CAMPION, in botany, the Engliſh name of the LYCHNIS.

CAMPION a town of the kingdom of Tanguth in Tartary. It was formerly remarkable for being a place through which the caravans paſſed in the road from Bukharia to China. E. Long. 104. 53. N. Lat. 40. 25.

CAMPISTRON, a celebrated French dramatic author, was born in 1656. Racine directed his poetical talents to the theatre, and aſſiſted him in his firſt pieces. He died in 1723.

CAMPITÆ, in church hiſtory, an appellation given to the donatiſts, on account of their aſſembling in the fields for want of churches. For a ſimilar reaſon, they were alſo denominated *Montenſes* and *Rupitani*. Campin Can.

CAMPLI, or CAMPOLI, a town of Italy, in the kingdom of Naples, and in the farther Abruzzo, ſituated in E. Long. 13. 55. N. Lat. 42. 38.

CAMPO MAJOR, a town of the province of Alentejo in Portugal. W. Long. 7. 24. N. Lat. 38. 50.

CAMPREDON, a town of Catalonia in Spain, ſeated at the foot of the Pyrenean mountains. The fortifications were demoliſhed by the French in 1691. W. Long. 1. 56. N. Lat. 42. 20.

CAMPS (Francis de), abbot of Notre Dame at Sigi, was born at Amiens in 1643; and diſtinguiſhed himſelf by his knowledge of medals, by writing an hiſtory of France, and ſeveral other works. He died at Paris in 1723.

CAMPVERE, See VEER.

CAMPUS, in antiquity, a field or vacant plain in a city, not built upon, left vacant on account of ſhows, combats, exerciſes, or other uſes of the citizens.

Campus Maii, in ancient cuſtoms, an anniverſary aſſembly of our anceſtors held on May-day, when they confederated together for the defence of the kingdom againſt all its enemies.

Campus Martius, a large plain in the ſuburbs of ancient Rome, lying between the Quirinal and Capitoline mounts and the Tiber, thus called becauſe conſecrated to the god Mars, and ſet apart for military ſports and exerciſes to which the Roman youth were trained, as the uſe and handling of arms, and all manner of feats of activity. Here were the races run, either with chariots or ſingle horſes; here alſo ſtood the villa publica, or palace for the reception of ambaſſadors, who were not permitted to enter the city. Many of the public comitia were held in the ſame field, part of which was for that purpoſe cantoned out. The place was alſo nobly decorated with ſtatues, arches, columns, porticoes, and the like ſtructures.

Campus Sceleratus, a place without the walls of ancient Rome, where the Veſtals who had violated their vows of virginity were buried alive.

CAMUL, a town of Aſia, on the eaſtern extremity of the kingdom of Cialus, on the frontiers of Tangut. E. Long. 98. 5. N. Lat. 37. 15.

CAMUS, a perſon with a low flat noſe, hollowed in the middle.

The Tartars are great admirers of camus beauties. Rubruquis obſerves, that the wife of the great Jenghiz Khan, a celebrated beauty, had only two holes for a noſe.

CAMUS (John Peter), a French prelate born in 1582. He was author of a number of pious romances (the taſte of his time), and other theological works, to the amount of 200 vols. His definition of politics is remarkable: *Ars non tam regendi, quam fallendi, hominet;* "the art not ſo much of governing, as of deceiving mankind." He died in 1652.

CAN, in the ſea-language, as can-pump, a veſſel wherewith ſeamen pour water into the pump to make it go.

Can-Buoy. See BOUY.

Can-Hook, an inſtrument uſed to ſling a caſk by the ends of the ſtaves: it is formed by fixing a broad and flat

Cans, Canaan.

flat hook at each end of a ſhort rope; and the tackle by which the caſk ſo ſlung may be hoiſted or lowered, is hooked to the middle of the rope.

CANA (anc. geog.), a town on the confines of the Upper and Lower Galilee: memorable for the turning water into wine (John). The birth place of Simeon, called *Cananite* from this place, and of Nathaniel.

CANAAN, the fourth ſon of Ham. The irreverence of Ham towards his father Noah is recorded in Gen. ix. Upon that occaſion the patriarch curſed him in a branch of his poſterity: "Curſed," ſays he, "be Canaan; a ſervant of ſervants ſhall he be unto "his brethren." This curſe being pronounced, not againſt Ham the immediate tranſgreſſor, but againſt his ſon, who does not appear, from the words of Moſes, to have been any ways concerned in the crime, hath occaſioned ſeveral conjectures. Some have believed that Noah curſed Canaan, becauſe he could not well have curſed Ham himſelf, whom God had not long before bleſſed. Others think Moſes's chief intent in recording this prediction was to raiſe the ſpirits of the Iſraelites, then entering on a terrible war with the children of Canaan, by the aſſurance, that, in conſequence of the curſe, that people were deſtined by God to be ſubdued by them. For the opinion of thoſe who imagine all Ham's race were here accurſed, ſeems repugnant to the plain words of Scripture, which confines the malediction to Canaan and his poſterity; and is alſo contrary to fact. Indeed, the prophecy of Noah, that Canaan "ſhould be a ſervant of ſervants to his brethren," ſeems to have been wholly completed in him. It was completed with regard to Shem, not only in that a conſiderable part of the ſeven nations of the Canaanites were made ſlaves to the Iſraelites, when they took poſſeſſion of their land, as part of the remainder of them were afterwards enſlaved by Solomon; but alſo by the ſubſequent expeditions of the Aſſyrians and Perſians, who were both deſcended from Shem; and under whom the Canaanites ſuffered ſubjection, as well as the Iſraelites; not to mention the conqueſt of part of Canaan by the Elamites, or Perſians, under Chedorlaomer, prior to them all. With regard to Japhet, we find a completion of the prophecy, in the ſucceſſive conqueſts of the Greeks and Romans in Paleſtine and Phœnicia, where the Canaanites were ſettled; but eſpecially in the total ſubverſion of the Carthaginian power by the Romans; beſides ſome invaſions of the northern nations, as the poſterity of Thogarma and Magog; wherein many of them, probably, were carried away captive.

The poſterity of Canaan were very numerous. His eldeſt ſon was Sidon, who at leaſt founded and peopled the city of Sidon, and was the father of the Sidonians and Phœnicians. Canaan had beſides ten ſons, who were the fathers of ſo many people, dwelling in Paleſtine, and in part of Syria; namely, the Hittites, the Jebuſites, the Amorites, the Girgaſites, the Hivites, the Arkites, the Sinites, the Arvadites, the Zemarites, and Hamathites.

Land of CANAAN, the country ſo named from Canaan the ſon of Ham. It lies between the Mediterranean ſea and the mountains of Arabia, and extends from Egypt to Phœnicia. It is bounded to the eaſt by the mountains of Arabia; to the ſouth by the wilderneſs of Paran, Idumæa, and Egypt; to the weſt by the Mediterranean, called in Hebrew the Great Sea; to the north by the mountains of Libanus. Its length from the city of Dan (ſince called Cæſarea Philippi, or Paneadis, which ſtands at the foot of theſe mountains) to Beerſheba, is about 70 leagues; and its breadth from the Mediterranean ſea to the eaſtern borders, is in ſome places 30. This country, which was firſt called Canaan, from Canaan the ſon of Ham, whoſe poſterity poſſeſſed it, was afterwards called Paleſtine, from the people which the Hebrews call Philiſtines, and the Greeks and Romans corruptly Paleſtines, who inhabited the ſea coaſts, and were firſt known to them. It likewiſe had the name of the *Land of Promiſe*, from the promiſe God made Abraham of giving it to him; that of the *Land of Iſrael*, from the Iſraelites having made themſelves maſters of it; that of *Judah*, from the tribe of Judah, which was the moſt conſiderable of the twelve; and laſtly, the happineſs it had of being ſanctified by the preſence, actions, miracles, and death of Jeſus Chriſt, has given it the name of the *Holy Land*, which it retains to this day.

Canaan, Canada.

The firſt inhabitants of this land therefore were the Canaanites, who were deſcended from Canaan, and the eleven ſons of that patriarch. Here they multiplied extremely; trade and war were their firſt occupations; theſe gave riſe to their riches, and the ſeveral colonies ſcattered by them over almoſt all the iſlands and maritime provinces of the Mediterranean. The meaſure of their idolatry and abominations was completed, when God delivered their country into the hands of the Iſraelites. In St Athanaſius's time, the Africans ſtill ſaid they were deſcended from the Canaanites; and it is ſaid, that the Punic tongue was almoſt entirely the ſame with the Canaaniti ſh and Hebrew language. The colonies which Cadmus carried into Thebes in Bœotia, and his brother Cilix into Cilicia, came from the ſtock of Canaan. The iſles of Sicily, Sardinia, Malta, Cyprus, Corſu, Majorca and Minorca, Gades and Ebuſus, are thought to have been peopled by the Canaanites. Bochart, in his large work entitled *Canaan*, has ſet all this matter in a good light.

Many of the old inhabitants of the north-weſt of the land of Canaan, however, particularly on the coaſt or territories of Tyre and Sidon, were not driven out by the children of Iſrael, whence this tract ſeems to have retained the name of Canaan a great while after thoſe other parts of the country, which were better inhabited by the Iſraelites, had loſt the ſaid name. The Greeks called this tract inhabited by the old Canaanites along the Mediterranean ſea, Phœnicia; the more inland parts, as being inhabited partly by Canaanites, and partly by Syrians, Syrophœnicia: and hence the woman ſaid by St Matthew (xv. 22.) to be a woman of Canaan, whoſe daughter Jeſus cured, is ſaid by St Mark (vii. 26.) to be a Syrophœnician by nation, as ſhe was a Greek by religion and language.

CANADA, or the province of Quebec, an extenſive country of North America, bounded on the north-eaſt by the gulph of St Lawrence, and St John's river; on the ſouth-weſt, by lands inhabited by the ſavage Indians, which are frequently included in this province; on the ſouth, by the provinces of Nova Scotia, New England, and New York; and on the

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Canada. north-weſt, by other Indian nations. Under the name of *Canada*, the French comprehended a very large territory; taking into their claim part of New Scotland, New England, and New York on the eaſt; and extending it on the weſt as far as the Pacific Ocean. That part, however, which was reduced by the Britiſh arms in the laſt war, lies between 61 and 81 degrees of weſt longitude, and between 45 and 52 of north latitude. The climate is not very different from that of the northern Britiſh colonies; but as it is much further from the ſea, and more to the northward, than moſt of thoſe provinces, it has a much ſeverer winter, though the air is generally clear; and, like moſt of thoſe American tracts that do not lie too far to the northward, the ſummers are very hot, and exceeding pleaſant. The ſoil in general is very good, and in many parts extremely fertile; producing many different ſorts of grains, fruits, and vegetables. The meadow grounds, which are well watered, yield excellent graſs, and breed vaſt numbers of great and ſmall cattle. The uncultivated parts are a continued wood, compoſed of prodigiouſly large and lofty trees, of which there is ſuch a variety of ſpecies, that even of thoſe who have taken moſt pains to know them, there is not perhaps one that can tell half the number. Canada produces, among others, two ſorts of pines, the white and the red; four ſorts of firs; two ſorts of cedar and oak, the white and the red; the male and female maple; three ſorts of aſh-trees, the free, the mungrel, and the baſtard; three ſorts of walnut-trees, the hard, the ſoft, and the ſmooth; vaſt numbers of beech-trees and white wood; white and red elms, and poplars. The Indians hollow the red elms into canoes, ſome of which made out of one piece will contain 20 perſons; others are made of the bark; the different pieces of which they ſew together with the inner rind, and daub over the ſeams with pitch, or rather a bituminous matter reſembling pitch, to prevent their leaking; the ribs of theſe canoes are made of boughs of trees. In the hollow elms, the bears and wild cats take up their lodging from November to April. The country produces alſo a vaſt variety of other vegetables, particularly tobacco, which thrives well. Near Quebec is a fine lead mine, and many excellent ones of iron have been diſcovered. It hath alſo been reported that ſilver is found in ſome of the mountains. The rivers are extremely numerous, and many of them very large and deep. The principal are, the Ouattauais, St John's, Seguinay, Deſpaires, and Trois Rivieres; but all theſe are ſwallowed up by the great river St Laurence. This river iſſues from the lake Ontario; and, taking its courſe north-eaſt, waſhes Montreal, where it receives the Ouattauais, and forms many fertile iſlands. It continues the ſame courſe, and meets the tide upwards of 400 miles from the ſea, where it is navigable for large veſſels; and below Quebec, 320 miles from the ſea, it becomes ſo broad and ſo deep, that ſhips of the line contributed in the laſt war to reduce that city. After receiving in its progreſs innumerable ſtreams, it at laſt falls into the ocean at cape Roſiers, where it is 90 miles broad, and where the cold is intenſe and the ſea boiſterous. This river is the only one upon which any ſettlements of note are as yet formed; but it is very probable, that, in time to come, Canada, and thoſe vaſt regions to the weſt, may be enabled of themſelves to carry on a conſiderable trade upon the great lakes of freſh water which theſe countries environ. Here are five lakes, the leaſt of which is of greater extent than the freſh-water lakes to be found in any other part of the world: theſe are the lake Ontario, which is not leſs than 200 leagues in circumference; Erie, or Oſwego, longer, but not ſo broad, is about the ſame extent. That of the Huron ſpreads greatly in width, and is about 300 leagues in circuit; as alſo is that of Machigao, though like lake Erie it is rather long, and comparatively narrow. But the lake Superior is larger than any of theſe, being not leſs than 500 leagues in circumference. All theſe are navigable by any veſſels, and they all communicate with each other; but the paſſage between Erie and Ontario is interrupted by a moſt ſtupendous fall or cataract, called the *falls of Niagara**. The river St Lawrence, as already obſerved, is the outlet of theſe lakes, by which they diſcharge themſelves into the ocean. The French built forts at theſe ſeveral ſtraits, by which the lakes communicate with one another, and on that where the laſt of them communicates with the river. By theſe, while the country was in their poſſeſſion, they effectually ſecured to themſelves the trade of the lakes, and preſerved an influence over all the Indian nations that lie near them. Canada.

* See Niagara.

The moſt curious and intereſting part of the natural hiſtory of Canada is the animals there produced. Theſe are ſtags, elks, deer, bears, foxes, martins, wild cats, ferrets, weaſels, large ſquirrels of a greyiſh hue, hares and rabbits. The ſouthern parts, in particular, breed great numbers of wild bulls, divers ſorts of roe bucks, goats, wolves, &c. The marſhes, lakes, and pools, with which this country abounds, ſwarm with otters and beavers, of which the white are highly valued, as well as the right black kind. A vaſt variety of birds are alſo to be found in the woods; and the river St Lawrence abounds with ſuch quantities of fiſh, that it is affirmed by ſome writers, this would be a more profitable article than even the fur-trade.—There are in Canada a multitude of different Indian tribes: but theſe are obſerved to decreaſe in number where the Europeans are moſt numerous; owing chiefly to the immoderate uſe of ſpirituous liquors, of which they are exceſſively fond. Their manners and way of living we have already particularly deſcribed†. The principal towns are Quebec, Trois Rivieres, and Montreal. The commodities required by the Canadians from Europe are, wine, or rather rum; cloths, chiefly coarſe; linen; and wrought iron. The Indian trade requires rum, tobacco, a ſort of duffil blankets, guns, powder, balls, and flints, kettles, hatchets, toys, and trinkets of all kinds. While the country was in poſſeſſion of the French, the Indians ſupplied them with poultry; and the French had traders, who, like the original inhabitants, traverſed the vaſt lakes and rivers in canoes, with incredible induſtry and patience, carrying their goods into the remoteſt parts of America, and among nations entirely unknown to us. Theſe again brought the furs, &c. home to them, as the Indians were thereby habituated to trade with them. For this purpoſe, people from all parts, even from the diſtance of 1000 miles, came to the French fair at Montreal, which began in June, and ſometimes laſted three months. On this occaſion many ſolemnities were obſerved, guards

† See *America*, N° 9—83.

were

Canada. were placed, and the governor aſſiſted to preſerve order in ſo great and various a concourſe of ſavage nations. But ſometimes great diſorders and tumults happened; and the Indians frequently gave for a dram all that they were poſſeſſed of. It is remarkable, that many of theſe nations actually paſſed by the Engliſh ſettlement of Albany in New York, and travelled 200 miles further to Mootreal, though they could have purchaſed the goods they wanted cheaper at the former.

Since Britain became poſſeſſed of Canada, our trade with that country has generally employed 34 ſhips and 400 ſeamen; their exports, at an average of three years, in ſkins, furs, ginſeng, ſnake-root, capillaire, and wheat, amount to 150,000*l.* Their imports from Great Britain are computed at nearly the ſame ſum. It will, however, be always impoſſible to overcome certain inconveniences ariſing from the violence of the winter. This is ſo exceſſive from December to April, that the broadeſt rivers are frozen over, and the ſnow lies commonly from four to ſix feet deep on the ground, even in thoſe parts of the country which lie three degrees ſouth of London, and in the temperate latitude of Paris. Another inconvenience ariſes from the falls in the river St Lawrence below Mootreal, which prevent ſhips from penetrating to that emporium of inland commerce. Our communication therefore with Canada, and the immenſe regions beyond it, will always be interrupted during the winter-ſeaſon, until roads are formed that can be travelled without danger from the Indians. For theſe ſavage people often commit hoſtilities againſt us, without any previous notice; and frequently, without any provocation, they commit the moſt horrid ravages for a long time with impunity.

Canada was undoubtedly diſcovered by Sebaſtian Canot, the famous Italian adventurer, who ſailed under a commiſſion from Henry VII. But though the Engliſh monarch did not think proper to make any uſe of this diſcovery, the French quickly attempted it; we have an account of their fiſhing for cod on the banks of Newfoundland, and along the ſea-coaſt of Canada, in the beginning of the 16th century. About the year 1506, one Denys, a Frenchman, drew a map of the gulph of St Lawrence; and two years after, one Aubort, a ſhip-maſter of Dieppe, carried over to France ſome of the natives of Canada. As the new country, however, did not promiſe the ſame amazing quantities of gold and ſilver produced by Mexico and Peru, the French for ſome years neglected the diſcovery. At laſt, in the year 1523, Francis I. a ſenſible and enterpriſing prince, ſent four ſhips, under the command of Verazani, a Florentine, to proſecute diſcoveries in that country. The particulars of this man's firſt expedition are not known. All we can learn is, that he returned to France, and next year he undertook a ſecond. As he approached the coaſt, he met with a violent ſtorm; however, he came ſo near as to perceive the natives on the ſhore, making friendly ſigns to him to land. This being found impracticable by reaſon of the ſurf upon the coaſt, one of the ſailors threw himſelf into the ſea; but, endeavouring to ſwim back to the ſhip, a ſurge threw him on ſhore without ſigns of life. He was, however, treated by the natives with ſuch care and humanity, that he recovered his ſtrength, and was allowed to ſwim back to the ſhip, which immediately returned to France. This is all we know of Verazani's ſecond expedition. He undertook a third, but was no more heard of, and it is thought that he and all his company periſhed before he could form any colony. Canada.

In 1534, one Jaques Cartier of St Maloes ſet ſail under a commiſſion from the French king, and on the 10th of May arrived at Cape Bonaviſta in Newfoundland. He had with him two ſmall ſhips beſides the one in which he ſailed. He cruiſed along the coaſts of that iſland, on which he diſcovered inhabitants, probably the Eſkimaux. He landed in ſeveral places along the coaſt of the Gulf, and took poſſeſſion of the country in the king's name. On his return, he was again ſent out with a commiſſion, and a pretty large force: he returned in 1535, and paſſed the winter at St Croix; but the ſeaſon proved ſo ſevere, that he and his companions muſt have died of the ſcurvy, had they not, by the advice of the natives, made uſe of the decoction of the tops and bark of the white pines. As Cartier, however, could produce neither gold nor ſilver, all that he could ſay about the utility of the ſettlement was diſregarded; and in 1540, he was obliged to become pilot to one M. Roberval, who was by the French king appointed viceroy of Canada, and who ſailed from France with five veſſels. Arriving at the gulph of St Lawrence, they built a fort; and Cartier was left to command the garriſon in it, while Roberval returned to France for additional recruits to his new ſettlement. At laſt, having embarked in 1549, with a great number of adventurers, neither he nor any of his followers were heard of more.

This fatal accident ſo greatly diſcouraged the court of France, that, for 50 years, no meaſure were taken for ſupplying with neceſſaries the ſettlers that were left. At laſt, Henry IV. appointed the Marquis de la Roche lieutenant-general of Canada and the neighbouring countries. In 1598 he landed on the iſle of Sable, which he abſurdly thought to be a proper place for a ſettlement, though it was without any port, and without product except briars. Here he left about 40 malefactors, the refuſe of the French jails. After cruiſing for ſome time on the coaſt of Nova Scotia, without being able to relieve theſe poor wretches, he returned to France, where he died of a broken heart. His colony muſt have periſhed, had not a French ſhip been wrecked on the iſland, and a few ſheep driven upon it at the ſame time. With the boards of the ſhip they erected huts; and while the ſheep laſted they lived on them, feeding afterwards on fiſh. Their clothes wearing out, they made coats of ſeal-ſkins; and in this miſerable condition they ſpent ſeven years, when Henry ordered them to be brought to France. The king had the curioſity to ſee them in their ſeal-ſkin dreſſes, and was ſo moved with their appearance, that he forgave them all their offences, and gave each of them 50 crowns to begin the world anew.

In 1600, one Chauvin, a commander in the French navy, attended by a merchant of St Malo, called *Pontgrave*, made a voyage to Canada, from whence he returned with a very profitable quantity of furs. Next year he repeated the voyage with the ſame good fortune, but died while he was preparing for a third. The many ſpecimens of profit to be made by the Canadian trade, at laſt induced the public to think favourably of it. An armament was equipped, and the command of it given to Pontgrave, with powers to extend his diſcoveries

Canal. veries up the river St Lawrence. He failed in 1603, having in his company Samuel Champlain, who had been a captain in the navy, and was a man of parts and ſpirit. It was not, however, till the year 1608, that the colony was fully eſtabliſhed. This was accompliſhed by founding the city of Quebec, which from that time commenced the capital of all the ſettlements in Canada. The colony, however, for many years continued in a low way, and was often in danger of being totally exterminated by the Indians. As the particulars of theſe wars, however, could neither be entertaining, nor indeed intelligible, to many of our readers, we chooſe to omit them, and in general obſerve, that the French not only concluded a permanent peace with the Indians, but ſo much ingratiated themſelves with them, that they could with the greateſt eaſe prevail upon them at any time to murder and ſcalp the Engliſh in their ſettlements. Theſe practices had a conſiderable ſhare in bringing about the laſt war with France, when the whole country was conquered by the Britiſh in 1761. The moſt remarkable tranſaction in this conqueſt was the ſiege of QUEBEC; for a particular account of which, ſee that article. And for the tranſactions here during the late American war, ſee AMERICA (United States of), nº 195, 200—207.

CANAL *of* COMMUNICATION, an artificial cut in the ground, ſupplied with water from rivers, ſprings, &c. in order to make a navigable communication betwixt one place and another.

The particular operations neceſſary for making artificial navigations depend upon a number of circumſtances. The ſituation of the ground; the vicinity or connection with rivers; the eaſe or difficulty with which a proper quantity of water can be obtained; theſe and many other circumſtances neceſſarily produce great variety in the ſtructure of artificial navigations, and augment or diminiſh the labour and expence of executing them. When the ground is naturally level, and unconnected with rivers, the execution is eaſy, and the navigation is not liable to be diſturbed by floods: but, when the ground riſes and falls, and cannot be reduced to a level, artificial methods of raiſing and lowering veſſels muſt be employed; which likewiſe vary according to circumſtances.

A kind of temporary ſluices are ſometimes employed for raiſing boats over falls or ſhoals in rivers by a very ſimple operation. Two poſts or pillars of maſon-work, with grooves, are fixed, one on each bank of the river, at ſome diſtance below the ſhoal. The boat having paſſed theſe poſts, planks are let down acroſs the river by pullies into the grooves, by which the water is dammed up to a proper height for allowing the boat to paſs up the river over the ſhoal.

The Dutch and Flemings at this day ſometimes, when obſtructed by caſcades, form an inclined plane or rolling-bridge upon dry land, alongſt which their veſſels are drawn from the river below the caſcade into the river above it. This, it is ſaid, was the only method employed by the ancients, and is ſtill uſed by the Chineſe, who are ſaid to be entirely ignorant of the nature and utility of locks. Theſe rolling-bridges conſiſt of a number of cylindrical rollers which turn eaſily on pivots, and a mill is commonly built near by, ſo that the ſame machinery may ſerve the double purpoſe of working the mill and drawing up veſſels.

A LOCK is a baſon placed lengthwiſe in a river or canal, lined with walls of maſonry on each ſide, and terminated by two gates, placed where there is a caſcade or natural fall of the country; and ſo conſtructed, that the baſon being filled with water by an upper ſluice to the level of the waters above, a veſſel may aſcend thro' the upper gate; or the water in the lock being reduced to the level of the water at the bottom of the caſcade, the veſſel may deſcend through the lower gate; for when the waters are brought to a level on either ſide, the gate on that ſide may be eaſily opened. But as the lower gate is ſtrained in proportion to the depth of water it ſupports, when the perpendicular height of the water exceeds 12 or 13 feet, more locks than one become neceſſary. Thus, if the fall be 17 feet, two locks are required, each having 8½ feet fall; and if the fall be 26 feet, three locks are neceſſary, each having 8 feet 8 inches fall. The ſide-walls of a lock ought to be very ſtrong. Where the natural foundation is bad, they ſhould be founded on piles and platforms of wood: they ſhould likewiſe ſlope outwards, in order to reſiſt the preſſure of the earth from behind. Canal.

Plate CXIV. fig. 1. A perſpective view of part of a canal: the veſſel L, within the lock AC.—Fig. 2. Section of an open lock: the veſſel L about to enter.—Fig. 3. Section of a lock full of water; the veſſel L raiſed to a level with the water in the ſuperior canal.—Fig. 4. Ground ſection of a lock. L, a veſſel in the inferior canal. C, the under gate. A, the upper gate. GH, a ſubterraneous paſſage for letting water from the ſuperior canal run into the lock. KF, a ſubterraneous paſſage for water from the lock to the inferior canal.

X and Y (fig. 1.) are the two flood-gates, each of which conſiſts of two leaves, reſting upon one another, ſo as to form an obtuſe angle, in order the better to reſiſt the preſſure of the water. The firſt (X) prevents the water of the ſuperior canal from falling into the lock; and the ſecond (Y) dams up and ſuſtains the water in the lock. Theſe flood-gates ought to be very ſtrong, and to turn freely upon their hinges. In order to make them open and ſhut with eaſe, each leaf is furniſhed with a long lever A *b*, A *b*; C *b*, C *b*. They ſhould be made very tight and cloſe, that as little water as poſſible may be loſt.

By the ſubterraneous paſſage G H (fig. 2, 3, & 4) which deſcends obliquely, by opening the ſluice G, the water is let down from the ſuperior canal D into the lock, where it is ſtopt and retained by the gate C when ſhut, till the water on the lock comes to be on a level with the water in the ſuperior canal D; as repreſented, fig. 3. When, on the other hand, the water contained by the lock is to be let out, the paſſage G H muſt be ſhut by letting down the ſluice G, the gate A muſt be alſo ſhut, and the paſſage K F opened by raiſing the ſluice K: a free paſſage being thus given to the water, it deſcends through K F, into the inferior canal, until the water in the lock is on a level with the water in the inferior canal B; as repreſented, fig. 2.

Now, let it be required to raiſe the veſſel L (fig. 2) from the inferior canal B to the ſuperior one D; if the lock happens to be full of water, the ſluice G muſt be ſhut, and alſo the gate A, and the ſluice K opened,

Canal. so that the water in the lock may run out till it is on a level with the water in the inferior canal B. When the water in the lock comes to be on a level with the water at B, the leaves of the gate C are opened by the levers C *b*, which is eaſily performed, the water on each ſide of the gate being in equilibrio; the veſſel then ſails into the lock. After this the gate C and the ſluice K are ſhut, and the ſluice G opened, in order to fill the lock, till the water in the lock, and conſequently the veſſel, be upon a level with the water in the ſuperior canal D; as is repreſented in fig. 3. The gate A is then opened, and the veſſel paſſes into the canal D.

Again, let it be required to make a veſſel deſcend from the canal D into the inferior canal B. If the lock is empty, as in fig. 2. the gate C and ſluice K muſt be ſhut, and the upper ſluice G opened, ſo that the water in the lock may riſe to a level with the water in the upper canal D. Then open the gate A, and let the veſſel paſs thro' into the lock. Shut the gate A and the ſluice G; then open the ſluice K, till the water in the lock be on a level with the water in the inferior canal; then the gate C is opened, and the veſſel paſſes along into the canal B, as was required.

It is almoſt needleſs to ſpend time in enumerating the many advantages which neceſſarily reſult from artificial navigations. Their utility is now ſo apparent, that moſt nations in Europe give the higheſt encouragement to undertakings of this kind wherever they are practicable. The advantages of navigable canals did not eſcape the obſervation of the ancients. From the moſt early accounts of ſociety we read of attempts to cut through large iſthmuſes, in order to make a communication by water, either betwixt different nations, or diſtant parts of the ſame nation, where land-carriage was long and expenſive. Herodotus relates, that the Cnidians, a people of Caria in Aſia Minor, deſigned to cut the iſthmus which joins that peninſula to the continent; but were ſuperſtitious enough to give up the undertaking, becauſe they were interdicted by an oracle. Several kings of Egypt attempted to join the Red-Sea to the Mediterranean. Cleopatra was exceedingly fond of this project. Solimao II. emperor of the Turks, employed 50,000 men in this great work. This canal was completed under the caliphate of Omar, but was afterwards allowed to fall into diſrepair; ſo that it is now difficult to diſcover any traces of it. Both the Greeks and Romans intended to make a canal acroſs the Iſthmus of Corinth, which joins the Morea and Achaia, in order to make a navigable paſſage by the Ionian ſea into the Archipelago. Demetrius, Julius Cæſar, Caligula, and Nero, made ſeveral unſucceſsful efforts to open this paſſage. But, as the ancients were entirely ignorant of the uſe of water-locks, their whole attention was employed in making level cuts, which is probably the principal reaſon why they ſo often failed in their attempts. Charlemagne formed a deſign of joining the Rhine and the Danube, in order to make a communication between the ocean and the Black Sea, by a canal from the river Almutz which diſcharges itſelf into the Danube, to the Reditz, which falls into the Maine, and this laſt falls into the Rhine near Mayence: for this purpoſe he employed a prodigious number of workmen; but he met with ſo many obſtacles from different quarters, that he was obliged to give up the attempt. Canal.

The French at preſent have many fine canals: that of Briare was begun under Henry IV. and finiſhed under the direction of cardinal Richelieu in the reign of Louis XIII. This canal makes a communication betwixt the Loire and the Seine by the river Loing. It extends 11 French great leagues from Briare to Montargis. It enters the Loire a little above Briare, and terminates in the Loing at Cepoi. There are 42 locks on this canal.

The canal of Orleans, for making another communication between the Seine and the Loire, was begun in 1675, and finiſhed by Philip of Orleans, regent of France, during the minority of Louis XV. and is furniſhed with 20 locks. It goes by the name of the *canal of Orleans*; but it begins at the village of Combleux, which is a ſhort French league from the town of Orleans.

But the greateſt and moſt uſeful work of this kind is the junction of the ocean with the Mediterranean by the canal of Languedoc. It was propoſed in the reigns of Francis I. and Henry IV. and was undertaken and finiſhed under Louis XIV. It begins with a large reſervoir 4000 paces in circumference, and 24 feet deep; which receives many ſprings from the mountain Noire. This canal is about 64 leagues in length, is ſupplied by a number of rivulets, and is furniſhed with 104 locks, of about eight feet riſe each. In ſome places it paſſes over bridges of vaſt height; and in others it cuts thro' ſolid rocks for 1000 paces. At one end it joins the river Garonne near Tholouſe, and terminates at the other in the lake Tau, which extends to the port of Cette. It was planned by Francis Riquet in the 1666, and finiſhed before his death, which happened in the 1680.

In the Dutch, Auſtrian, and French Netherlands, there is a very great number of canals; that from Bruges to Oſtend carries veſſels of 200 tons.

The Chineſe have alſo a great number of canals; that which runs from Canton to Pekin extends about 825 miles in length, and was executed about 800 years ago.

It would be an endleſs taſk to deſcribe the numberleſs canals in Holand, Ruſſia, Germany, &c. We ſhall therefore confine ourſelves to thoſe that are either already finiſhed, or at preſent executing, in our own country.

As the promoting of commerce is the principal intention of making canals, it is natural to expect that their frequency in any nation ſhould bear ſome proportion to the trade carried on in it, providing the ſituation of the country will admit of them. The preſent ſtate of England and Scotland confirms this obſervation. Though the Romans made a canal between the Nyne, a little below Peterborough, and the Witham, three miles below Lincoln, which is now almoſt entirely filled up, yet it is not long ſince canals were revived in England. They are now however become very numerous, particularly in the counties of York, Lincoln, and Cheſhire. Moſt of the counties betwixt the mouth of the Thames and the Briſtol channel are connected together either by natural or artificial navigations; thoſe upon the Thames and Iſis reaching within about

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Canal. 20 miles of thoſe upon the Severn. The duke of Bridgewater's canal in Cheſhire runs 27 miles on a perfect level; but at Barton it is carried by a very high aqueduct bridge over the Irwell, a navigable river; ſo that it is common for veſſels to be paſſing at the ſame time both under and above the bridge. It is likewiſe cut ſome miles into the hills, where the Duke's coal-mines are wrought.

A navigable canal betwixt the Forth and Clyde in Scotland, and which divides the kingdom in two parts, was firſt thought of by Charles II. for tranſports and ſmall ſhips of war; the expence of which was to have been L. 500,000, a ſum far beyond the abilities of his reign. It was again projected in the year 1722, and a ſurvey made; but nothing more done till 1761, when the then Lord Napier, at his own expence, cauſed make a ſurvey, plan, and eſtimate on a ſmall ſcale. In 1764, the truſtees for fiſheries, &c. in Scotland cauſed make another ſurvey, plan, and eſtimate of a canal five feet deep, which was to coſt L. 79,000. In 1766, a ſubſcription was obtained by a number of the moſt reſpectable merchants in Glaſgow, for making a canal four feet deep and twenty-four feet in breadth; but when the bill was nearly obtained in Parliament, it was given up on account of the ſmallneſs of the ſcale, and a new ſubſcription ſet on foot for a canal ſeven feet deep, eſtimated at L. 150,000. This obtained the ſanction of Parliament; and the work was begun in 1768 by Mr Smeaton the engineer. The extreme length of the canal from the Forth to the Clyde is 35 miles, beginning at the mouth of the Carron, and ending at Dalmure Burnfoot on the Clyde, ſix miles below Glaſgow, riſing and falling 160 feet by means of 39 locks, 20 on the eaſt ſide of the ſummit, and 19 on the weſt, as the tide does not ebb ſo low in Clyde as in the Forth by nine feet. Veſſels drawing eight feet water, and not exceeding nineteen feet beam and ſeventy-three feet in length, paſs with eaſe, the canal having afterwards been deepened to upwards of eight feet. The whole enterpriſe diſplays the art of man in a high degree. The carrying the canal through moſs, quick-ſand, gravel, and rocks, up precipices and over valleys, was attended with inconceivable difficulties. There are eighteen draw-bridges and fifteen aqueduct bridges of note, beſides ſmall ones and tunnels. In the firſt three miles there are only ſix locks; but in the fourth mile there are no leſs than ten locks, and a very fine aqueduct bridge over the great road to the weſt of Falkirk. In the next ſix miles there are only four locks, which carry you to the ſummit. The canal then runs eighteen miles on a level, and terminates about a mile from Glaſgow. In this courſe, for a conſiderable way the ground is banked about twenty feet high, and the water is ſixteen feet deep, and two miles of it is made through a deep moſs. At Kirkintulloch, the canal is carried over the water of Logie on an aqueduct arch of ninety feet broad. This arch was thrown over in three ſtretches, having only a centre of thirty feet, which was ſhifted on ſmall rollers from one ſtretch to another; a thing new, and never attempted before with an arch of this ſize; yet the joinings are as fairly equal as any other part, and admired as a very fine piece of maſonry. On each ſide there is a very conſiderable banking over the valley. The work was carried on till it came within ſix miles of its junction with the Clyde; when the ſubſcription and a ſubſequent loan being exhauſted, the work was ſtopt in 1775. The city of Glaſgow, however, by means of a collateral branch, opened a communication with the Forth, which has produced a revenue of about L. 6000 annually; and, in order to finiſh the remaining ſix miles, the government in 1784 gave L. 50,000 out of the forfeited eſtates, the dividends ariſing from this ſum to be applied to making and repairing roads in the Highlands of Scotland. Accordingly the work has been reſumed; and by contract, under a high penalty, muſt be entirely completed in November 1789. The aqueduct bridge over the Kilven (now finiſhed, and ſuppoſed the greateſt of the kind in the world) conſiſts of four arches, and carries the canal over a valley 65 feet high and 420 in length, exhibiting a very ſingular effort of human ingenuity and labour. To ſupply the canal with water was of itſelf a very great work. There is one reſervoir of 50 acres 24 feet deep, and another of 70 acres 22 feet deep, into which many rivers and ſprings terminate, which it is thought will afford ſufficient ſupply of water at all times. This whole undertaking when finiſhed will coſt about L. 200,000. It is the greateſt of the kind in Britain, and without doubt will be of great national utility; though it is to be regretted that it had not been executed on a ſtill larger ſcale, the locks being too ſhort for tranſporting large maſſes.

Canal, Canara.

Canal, in anatomy, a duct or paſſage through which any of the juices flow.

CANANOR, a large maritime town of Aſia, on the coaſt of Malabar, in a kingdom of the ſame name, with a very large and ſafe harbour. It formerly belonged to the Portugueſe, and had a ſtrong fort to guard it; but in 1683, the Dutch, together with the natives, drove them away; and after they became maſters of the town, enlarged the fortifications. They have but a very ſmall trade; but there is a town at the bottom of the bay independent of the Dutch, whoſe prince can bring 20,000 men into the field. The Dutch fort is large, and the governor's lodgings are at a good diſtance from the gate; ſo that, when there was a ſkirmiſh between the factory and the natives, he knew nothing of it till it was over. E. Long. 78. 10. N. Lat. 12. 0.

Cananor, a ſmall kingdom of Aſia, on the coaſt of Malabar, whoſe king can raiſe a conſiderable army. The natives are generally Mahometans; and the country produces pepper, cardamons, ginger, mirobolans, and tamarinds, in which they drive a conſiderable trade.

CANARA, a kingdom of Aſia, on the coaſt of Malabar. The inhabitants are Gentoos, or Pagans; and there is a pagod, or temple, called *Ramtrut*, which is viſited every year by a great number of pilgrims. Here the cuſtom of burning the wives with their huſbands had its beginning, and is practiſed to this day. The country is generally governed by a woman who keeps her court at a town called *Baydor*, two days journey from the ſea. She may marry whom ſhe pleaſes; and is not obliged to burn with her huſband, like her female ſubjects. They are ſo good obſervers of their laws, that a robbery or murder is ſcarce ever heard of among them. The Canarans have forts built of earth along the coaſt, which are garriſoned with 200 or 300 ſoldiers, to guard againſt the robberies of their neighbours.

Plate CXIV.

Fig. 1.
Perspective VIEW *of part of a* CANAL *with Locks*

Fig. 2.
Section of a LOCK

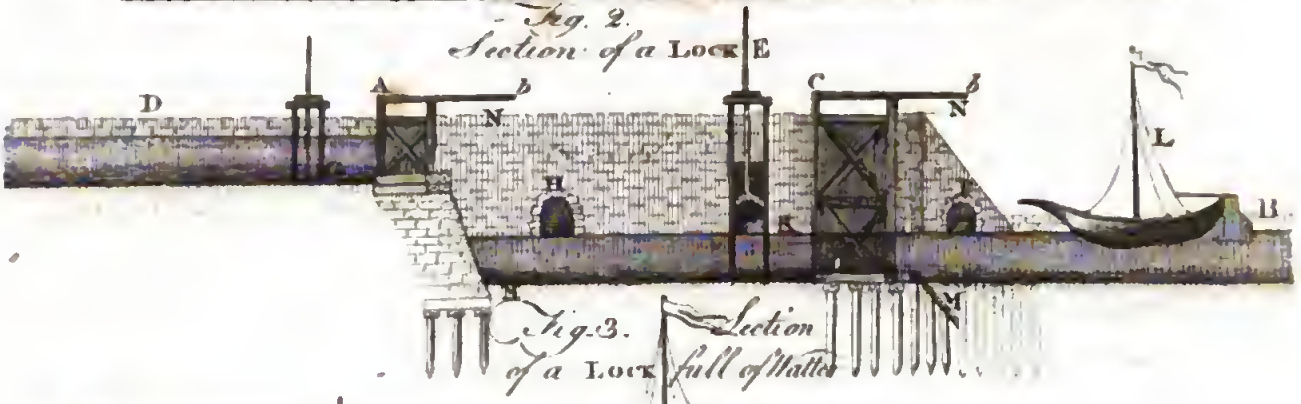


Fig. 3. *Section of a* LOCK *full of Water*

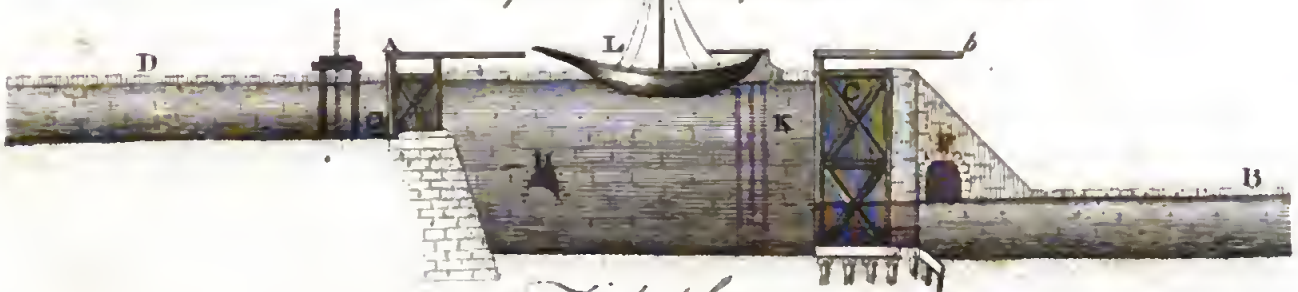
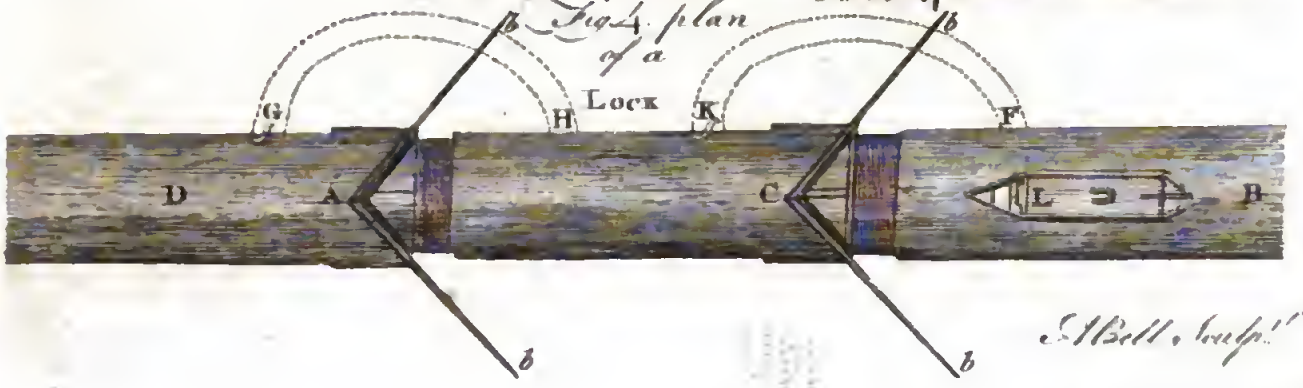


Fig. 4. *plan of a* LOCK



S. Bell, sculp.

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Canaria ll Canary-Iſlands

bours. The lower grounds yield every year two crops of corn or riee; and the higher produce pepper, betel nuts, ſanders wood, iron, and ſteel. The Portugueſe elergy here live very looſely, and make uo ſeruple of procuring women for ſtrangers.

CANARIA (anc. geog.), one of the Fortunate Iſlands, a proof that theſe were what are now called the *Canaries*. Canaria had its name from its abounding with dugs uf an enormuus ſize, two of which were brought to Juba king of Mauritania. See the following artiele.

CANARIA, or the GRAND CANARY, an iſland in the Atlantic Ocean, aboot 180 miles from the eoaſt of Africa. It is about 100 miles in circumference, and 33 in diameter. It is a fruitful iſland, and famous for the wine that bears its name. It alſo abounds with apples, melons, oranges, citrons, pomegranates, figs, olives, peaches, and plantains. The fir and palm trees are the moſt eommon. The tuwns are, Canary the capital, Gualdera, and Geria.

CANARY, or CIVIDAD DE PALMAS, is the eapital of the iſland of Canaria, with an indifferent caſtle, and a biſhop's ſee. It has alſo a eourt of inquiſition, and the ſupreme council of the reſt of the Canary-iſlands; as alſo four eonvents, two for men and two for women. The town is about three miles in compaſs, and contains 12,000 inhabitants. The houſes are only one ſtory high, and flat at the top; but they are well built. The eathedral is a handſome ſtruĉture. W. Lung. 15. 20. N. Lat. 28. 4.

Canary-Iſlands, are ſituated in the Atlantie ocean, over againſt the empire of Morocco in Africa. They were formerly called the *Fortunate Iſlands*, on accouut of the temperate healthy air, and exeellent fruits. The land is very fruitful, for both wheat and barley produce 130 for one. The cattle thrive well, and the woods are full of all ſorts of game. The Canary finging birds are well known all over Europe. There are here ſugar-canes in great abundance; but the Spaniards firſt planted vines here, from whenee we have the wine called *Canary* or *Sack*.

Theſe iſlands were not entirely unknown to the aneients; but they were a long while forgot, till John de Beteneourt diſcovered them in 1402. It is ſaid they were firſt inhabited by the Phœnicians, or Carthaginians, but on no eertain foundation; nor could the inhabitants themſelves tell from whence they were derived; on the eontrary, they did not know there was any other country in the world. Their language, manners, and cuſtoms, had no reſemblance to thoſe of their neighbours. Huwever, they were like the people on the coaſt of Barbary in complexion. They had no iron. After the diſcovery, the Spaniards ſoon got poſſeſſion of them all, under whoſe dominiums they are to this day, except Madeira, which belongs tu the Purtugueſe. The inhabitants are chiefly Spaniards; though there are ſume of the firſt people remaining, whom they call *Guanches*, who are ſomewhat eivilized by their intercourſe with the Spaniards. They are a hardy, aetive, bold people, and live on the mountains. Their chief food is goat's milk. Their complexion is tawny, and their noſes flat. The Spaniſh veſſels, when they ſail for the Weſt Indies, always rendezvous at theſe iſlands, going and coming. Their number is 12. 1. Alegranza; 2. Canaria; 3. Ferro; 4. Fuerteventura; 5. Gomera; 6. Gratiofa; 7. Lancerotta; 8. Madeira; 9. Palms; 10. Rocca; 11. Salvages; 12. Teneriff. Weſt longitude from 12. to 21. north latitude from 27. 30. tu 29. 30.

Canary-bird.

CANARY-Bird. See FRINGILLA. Theſe birds are mueh admired for their ſingiog, and take their name from the place from whence they originally eame, *viz.* the Canary-iſlands; hut of late years there is a ſort of birds brought from Germany, and eſpecially from Tirol, and therefore ealled *German birds*, which are much better than the others; though both are ſuppoſed to have originally eome from the ſame place. The eocks never grow fat, and by ſome country people cannot be diſtinguiſhed from eommon green-birds; though the Canary-birds are much luſtier, have a longer tail, and differ much in the heaving of the paſſages of the throat when they ſing. Theſe birds being ſo much eſteemed for their ſong, are ſometimes ſold at a high priee, aeeording to the goodneſs and exeellency of their notes; ſu that it will always be adviſable tu hear one ſing before he is bought. In order to know whether he is in good health, take him out of the ſtore-cage, and put him in a eleau cage by himſelf; if he ſtand up boldly, without erouching or ſhrinking in his feathers, look with a briſk eye, and is not ſubjeĉt to elap his head under his wing, it is a ſign that he is in good health; but the greateſt matter is to obſerve his dungiog: if he bolts his tail like a nightingale after he has dunged, it is a ſign he is not in good health, or at leaſt that he will ſoon be ſiek; but if his dung be very thin like water, or of a ſlimy white without any blackneſs in it, it is a ſign of approaching death. When in perfeĉt health, his dung lies round and hard, witb a fine white on the outſide, dark within, and dries quickly; though a ſeed-bird ſeldom dungs ſo hard, unleſs he is very young.

Canary-birds are ſubjeĉt to many diſeaſes, particularly impoſthumes, which affect the head, cauſe them to fall ſuddenly from the perch, and die in a ſhort time, if not ſpeedily eured. The muſt approved medicine is an ointment made of freſh butter and eapon's greaſe melted together. With this the top of the bird's head is to be anointed for two or three days, and it will diſſolve the impoſthume: but if the medicine has been too lung delayed, then, after three or four times anointing, ſee whether the place uf his head be ſoft; and if ſo, open it gently, and let out the matter, which will be like the yulk uf an egg; when this is done, anoint theplace, and the bird will be eured. At the ſame time he muſt have figs with his other food, and in his water a ſlice or two uf liquorice, with white ſugar-candy.

Canary-birds are diſtinguiſhed by different names at different times and ages: ſuch as are about three years old are ealled *runts*; thoſe above two are named *eriſſi*; thuſe of the firſt year under the care of the old ones, are termed *branchers*; thoſe that are new-flown, and cannot feed themſelves, *puſters*; and thoſe brought up by hand, *neſtlings*.

The Canary-birds may be bred with us; and, if treated with proper care, they will become as vigorous and healthful as in the eountry from whenee they have their name. The cages in which theſe birds are kept are to be made either of walnut-tree or oak, with bars of wire; becauſe theſe, being woods of ſtrength, do not require to be uſed in large pieces.

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Canary-birds.

The common ſhape of cages, which is cylindric, is very improper for theſe birds; for this allows little room to walk, and without that the birds uſually become melancholy. The moſt proper of all ſhapes is the high and long, but narrow.

If theſe birds eat too much, they grow over-fat, loſe their ſhape, and their ſinging is ſpoiled; or at leaſt they become ſo idle, that they will ſcarce ever ſing. In this caſe their victuals is to be given them in a much ſmaller quantity, and they will by this means be recovered by degrees to all their beauty, and will ſing as at firſt.

At the time that they are about to build their neſts, there muſt be put into their cages ſome hay, dried thoroughly in the ſun: with this muſt be mixed ſome moſs dried in the ſame manner, and ſome ſtag's hair; and great care is to be taken of breeding the young, in the article of food. As ſoon as the young birds are eight days old, or ſomewhat more, and are able to eat and pick up food of themſelves, they are to be taken out of the cage in which they were hatched, and each put ſeparately into another cage, and hung up in a room where it may never have an opportunity of hearing the voice of any other bird. After they have been kept thus about eight days, they are to be excited to ſing by a bird-pipe; but this is not to be blowed too much, or in too ſhrill a manner, leſt they ſing themſelves to death.

For the firſt fifteen days the cages are to be covered with a black cloth, and for the fifteen days following with a green one. Five leſſons in a day from the pipe are ſufficient for theſe young creatures; and they muſt not be diſturbed with ſeveral ſounds at the ſame time, leſt they confound and puzzle them: two leſſons ſhould be given them early in the morning, one about the middle of the day, and two more at night.

The genius and temper of the ſeveral birds of this kind are very different. The males are almoſt always melancholy, and will not ſing unleſs they are excited to it by hearing others continually ſinging about them. The male bird of this kind will often kill the female put to him for breeding; and when there are ſeveral females together with the males, they will often do the ſame to one another from jealouſy. It is therefore not eaſy to manage the article of their breeding well in this particular, unleſs in this manner: let two female birds be put into one cage, and when they have lived together ſome time, they will have contracted a ſort of love for one another, which will not eaſily be diſſolved. Put a male bird into the cage with theſe two, and every thing will go well; their friendſhip will keep them from quarrelling about his favours, and from danger of his miſchievous diſpoſition; for if he attacks one of them, in order to kill her, the other will immediately take her part; and after a few of theſe battles, the male will find that they are together an overmatch for him at fighting, and will then diſtribute his favours to them, and there will not fail of being a young breed or two, which are to be taken away from their parents, and educated as before directed. Some males watch the time of the female's laying, and devour the eggs as faſt as ſhe depoſits them; and others take the young ones in their beak as ſoon as hatched, and cruſh them to death againſt the ſides of the cage, or ſome other way deſtroy them. When a male has been known once to have been guilty of this, he is to be ſhut up in a ſmall cage, in the middle of the large one in which the female is breeding her young, and thus he will often comfort her with ſinging all day long, while ſhe ſits upon the eggs or takes care of the young ones; and when the time of taking away, to put them into ſeparate cages, is come, the male is to be let out, and he will always after this live in friendſhip with the female.

Cancelle || Cancer.

If the male become ſick during the time of the female's ſitting or bringing up her young, he muſt be removed immediately, and only brought to the ſide of her cage at certain times, that ſhe may ſee him, till he is perfectly cured; and then he is to be ſhut up again in his cage in the middle.

Canary-birds are various in their notes; ſome having a ſweet ſong, others a lowiſh note, others a long ſong, which is beſt, as having the greateſt variety of notes; but they ſing chiefly either the titlark or nightingale notes. See *Song of Birds*.

CANCALLE, a town of France, in Upper Brittany, by the ſea-ſide, where there is a road. Here the Britiſh landed in 1758, in their way to St Maloes, where they burnt a great number of ſhips in the harbour, and then retired without loſs. This town was in their power; but they acted like generous enemies, and did no hurt to this nor any other on the coaſt. W. Long. 0. 13. N. Lat. 48. 41.

CANCELIER, in falconry, is when a light brown hawk, in her ſtooping, turns two or three times upon the wing, to recover herſelf before ſhe ſeizes.

CANCELLI, a term uſed to denote lattice windows, of thoſe made of croſs bars diſpoſed latticewiſe; it is alſo uſed for rails or balluſters incloſing the communion-table, a court of juſtice, or the like, and for the network in the inſide of hollow boxes.

CANCELLING, in the civil law, an act whereby a perſon conſents that ſome former deed be rendered null and void. This is otherwiſe called *reſciſion*. The word comes from the Latin *cancellare* to encompaſs or pale a thing round. In the proper ſenſe of the word, *to cancel*, is to deface an obligation, by paſſing the pen from top to bottom, or acroſs it; which makes a kind of chequer lattice, which the Latins call *cancelli*.

CANCER, in zoology, a genus of inſects belonging to the order of inſecta aptera. The generic characters are theſe: they have eight legs, (ſeldom ten or ſix), beſides the two large claws which anſwer the purpoſe of hands. They have two eyes at a conſiderable diſtance from each other, and for the moſt part ſupported by a kind of pedunculi or footſtalks; the eyes are likewiſe elongated and moveable; they have two clawed palpi, and the tail is jointed. This genus includes the lobſter, ſhrimp, &c. There are no leſs than 87 ſpecies of cancer, diſtinguiſhed principally by the length of their tails and the margins of their breaſts. The following are the moſt remarkable.

1. The gammarus, or common lobſter, with a ſmooth thorax, ſhort ſerrated ſnout; very long antennæ; and between them two ſhorter ones, bifid; claws and fangs large, the greater tuberculated, the leſſer ſerrated on the inner edge; four pair of legs; ſix joints in the tail; tail-fins rounded. It inhabits all the rocky ſhores of our iſland, but chiefly where there is a depth of water. In Llyn in Caernarvonſhire a certain ſmall lobſter, Common lobſter.

Cancer. ſter, nothing different except in ſize, burrows in the ſand. They are brought in vaſt quantities from the Orkney iſles, and many parts of the eaſtern coaſt of Scotland, to the London markets. Sixty or ſeventy thouſand are annually brought from the neighbourhood of Montroſe alone.—The lobſter was well known to the ancients, and is well deſcribed by Ariſtotle under the name of καρκινος. It is found as far as the Helleſpont; and is called at Conſtantinople *hexuda* and *octpuda*.

Lobſters fear thunder, and are apt to caſt their claws on a great clap: it is ſaid that they will do the ſame on the firing of a great gun; and that, when men of war meet a lobſter boat, a jocular threat is uſed, that, if the maſter does not ſell them good lobſters, they will *ſalute him*.

The habitation of this ſpecies is in the cleareſt water, at the foot of rocks that impend over the ſea. This has given opportunity of examining more cloſely into the natural hiſtory of the animal, than of many others who live in an element that prohibits moſt of the human reſearches, and limits the inquiries of the moſt inquiſitive. Some lobſters are taken by hand; but the greater quantity in pots, a ſort of trap formed of twigs, and baited with garbage; they are formed like a wire mouſe-trap, ſo that when the lobſter gets in, there is no return. Theſe are faſtened to a cord ſunk in the ſea, and their place marked by a buoy.—They begin to breed in the ſpring, and continue breeding moſt part of the ſummer. They propagate *more humano*, and are extremely prolific. Dr Baſter ſays he counted 12,444 eggs under the tail, beſides thoſe that remained in the body unprotruded. They depoſit thoſe eggs in the ſand, where they are ſoon hatched.

Lobſters change their cruſt annually. Previous to their putting off their old one, they appear ſick, languid, and reſtleſs. They totally acquire a new coat in a few days; but during the time that they remain defenceleſs, they ſeek ſome very lonely place, for fear of being devoured by ſuch of their brethren as are not in the ſame ſituation. It is alſo remarkable, that lobſters and crabs will renew their claws, if by accident they are torn off; and it is certain they will grow again in a few weeks, though they never attain to the ſize of the firſt. They are very voracious animals, and feed on ſea-weeds, garbage, and all ſorts of dead bodies. The pincers of one of the lobſters large claws are furniſhed with knobs, and thoſe of the other are always ſerrated. With the former it keeps firm hold of the ſtalks of ſubmarine plants, and with the latter it cuts and minces its food very dexterouſly. The knobbed or *numb* claw, as the fiſhermen call it, is ſometimes on the right and ſometimes on the left ſide indifferently. It is more dangerous to be ſeized by them with the cutting claw than the other; but, in either caſe, the quickeſt way to get diſengaged from the creature is to pull off its claw. The female or *hen* lobſter does not caſt her ſhell the ſame year that ſhe depoſits her ova, or, in the common phraſe, is in *berry*. When the ova firſt appear under her tail, they are ſmall, and extremely black; but they become in ſucceſſion almoſt as large as ripe elder berries before they are depoſited, and turn of a dark brown colour, eſpecially towards the end of the time of her depoſiting them. They continue full, and depoſiting the ova in conſtant ſucceſſion, as long as any of that black ſubſtance can be found in their body, which, when boiled, turns of a beautiful red colour, and is called their *coral*. Hen-lobſters are found in berry at all times of the year, but chiefly in winter. It is a common miſtake, that a berried hen is always in perfection for the table. When her berries appear large and brownish, ſhe will always be found exhauſted, watery, and poor. Though the ova be caſt at all times of the year, they ſeem only to come to life during the warm ſummer months of July and Auguſt. Great numbers of them may then be found, under the appearance of tadpoles, ſwimming about the little pools left by the tides among the rocks, and many alſo under their proper form from half an inch to four inches in length. In caſting their ſhells, it is hard to conceive how the lobſter is able to draw the fiſh of their large claws out, leaving the ſhells entire and attached to the ſhell of their body, in which ſtate they are conſtantly found. The fiſhermen ſay, the lobſter pines before caſting, till the fiſh of its large claw is no thicker than the quill of a gooſe, which enables it to draw its parts through the joints and narrow paſſage near the tronk. The new ſhell is quite membranaceous at firſt, but hardens by degrees. Lobſters only grow in ſize while their ſhells are in their ſoft ſtate. They are choſen for the table, by their being heavy in proportion to their ſize; and by the hardneſs of their ſhells on their ſides, which, when in perfection, will not yield to moderate preſſure. Barnacles and other ſmall fiſh adhering to them are reckoned certain ſigns of ſuperior goodneſs. Cock-lobſters are in general better than the hens in winter; they are diſtinguiſhed by the narrowneſs of their tails, and by their having a ſtrong ſpine upon the centre of each of the tranſverſe proceſſes beneath the tail, which ſupport the four middle plates of their tails. The fiſh of a lobſter's claw is more tender, delicate, and eaſy of digeſtion, than that of the tail. In ſummer, the lobſters are found near the ſhore, and thence to about ſix fathoms water; in winter, they are ſeldom taken in leſs than 12 or 15 fathoms. Like other inſects, they are much more active and alert in warm weather than in cold. In the water, they can run nimbly upon their legs or ſmall claws; and, if alarmed, can ſpring, tail foremoſt, to a ſurpriſing diſtance, as ſwift as a bird can fly. The fiſhermen can ſee them paſs about 30 feet; and, by the ſwiftneſs of their motion, ſuppoſe they may go much further. Athenæus remarks this circumſtance, and ſays, that "the incurvated lobſters will ſpring with the activity of dolphins." Their eyes are raiſed upon moveable baſes, which enables them to ſee readily every way. When frightened, they will ſpring from a conſiderable diſtance to their hold in the rock, and, what is not leſs ſurpriſing than true, will throw themſelves into their hold in that manner through an entrance barely ſufficient for their bodies to paſs.

Cancer.

2. The ſtrigoſus, or plated lobſter, with a pyra- Plate CXV.
midal ſpiny ſnout; thorax elegantly plated, each plate marked near its junction with ſhort ſtriæ; claws much longer than the body, thick, echinated, and tuberculated; the upper fang trifid; only three legs ſpiny on their ſides; tail broad. The largeſt of this ſpecies is about ſix inches long. It inhabits the coaſts of Angleſea, under ſtones and fuci. It is very active; and, if taken, flaps its tail againſt the body with much violence and noiſe.

3. The aſtacus, or craw-fiſh, with a projecting ſnout

Cancer. Crow-fish, prawn, ſhrimp, &c.

ſlightly ſerrated on the ſides; a ſmooth thorax; back ſmooth, with two ſmall ſpines on each ſide; claws large, beſet with ſmall tubercles; two firſt pair of legs clawed, the two next ſubulated; tail conſiſting of five joints; the caudal fins rounded. It inhabits many of the rivers in England, lodged in holes which they form in the clayey banks. Cardan ſays, that this ſpecies indicates the goodneſs of water; for in the beſt water they are boiled into the reddeſt colour.

4. The ſerratus, or prawn, with a long ſerrated ſnout bending upwards; three pair of very long ſiliform feelers; claws ſmall, furniſhed with two fangs; ſmooth thorax; five joints to the tail; middle caudal fin ſubulated, two outmoſt flat and rounded. It is frequent in ſeveral ſhores among looſe ſtones; ſometimes found at ſea, and taken on the ſurface over 30 fathoms depth of water; cinereous when freſh, of a fine red when boiled.

5. The crangon, or ſhrimp, with long ſlender feelers, and between them two projecting laminæ; claws with a ſingle, hooked, moveable fang; three pair of legs; ſeven joints in the tail; the middle caudal fin ſubulated, the four others rounded and fringed, a ſpine on the exterior ſide of each of the outmoſt. It inhabits the ſhores of Britain in vaſt quantities, and is the moſt delicious of the genus.

6. The ſquilla, with a ſnout like a prawn, but deeper and thinner; the feelers longer in proportion to the bulk; the ſub-caudal fins rather larger; is, at full growth, not above half the bulk of the former.—It inhabits the coaſts of Kent; and is ſold in London under the name of the *white ſhrimp*, as it aſſumes that colour when boiled.

7. The atomos, or atom-lobſter, with a ſlender body; ſiliform antennæ; three pair of legs near the head; behind which are two pair of oval veſiculæ; beyond are three pair of legs, and a ſlender tail between the laſt pair. It is very minute, and the help of the microſcope is often neceſſary for its inſpection.

8. The pulex, or flea lobſter, with five pair of legs, and two claws, imperfect; with 12 joints of the body. It is very common in fountains and rivulets; ſwims very ſwiftly in an incurvated poſture on its back; embraces and protects its young between the legs; does not leap.

9. The locuſt, or locuſt-lobſter, with four antennæ; two pair of imperfect claws; the firſt joint ovated; body conſiſts of 14 joints, in which it differs from the former. It abounds, in ſummer, on the ſhores, beneath ſtones and algæ; leaps about with vaſt agility.

Hermit-crab.

10. The diogenes, ſoldier-crab, or hermit-crab, with rough claws; the left claw is the longeſt (this being the only difference between the *diogenes* and *bernardus*); the legs are ſubulated, and ſerrated along the upper ridge; the tail naked and tender, and furniſhed with a hook by which it ſecures itſelf in its lodging. This ſpecies is paraſitic; and inhabits the empty cavities of turbinated ſhells, changing its habitation according to its increaſe of growth from the ſmall *nerite* to the large *whelk*. Nature denies it the ſtrong covering behind, which it hath given to others of this claſs; and therefore directs it to take refuge in the deſerted caſes of other animals. They crawl very faſt with the ſhell on their back; and at the approach of danger draw themſelves within the ſhell, and, thruſting out the larger claw, will pinch very hard whatever moleſts them. Ariſtotle deſcribes it very exactly under the name of καρκινος. By the moderns it is called the *ſoldier*, from the idea of its dwelling in a tent; or the *hermit*, from retiring into a cell. Cancer.

It is very diverting to obſerve this animal when wanting to change its ſhell. The little ſoldier is ſeen buſily parading the ſhore along that line of pebbles and ſhells which is formed by the extremeſt wave; ſtill, however, dragging its old incommodious habitation at its tail, unwilling to part with one ſhell, even though a troubleſome appendage, till it can find another more convenient. It is ſeen ſtopping at one ſhell, turning it, and paſſing it by; going on to another, contemplating that for a while, and then ſlipping its tail from its old habitation to try on the new: this alſo is found to be inconvenient, and it quickly returns to its old ſhell again. In this manner it frequently changes, till at laſt it finds one light, roomy, and commodious; to this it adheres, though the ſhell be ſometimes ſo large as to hide the body of the animal, claws and all. Yet it is not till after many trials, and many combats alſo, that the ſoldier is thus completely equipped; for there is often a conteſt between two of them for ſome well-looking favourite ſhell for which they are rivals. They both endeavour to take poſſeſſion; they ſtrike with their claws, they bite each other, till the weakeſt is obliged to yield by giving up the object of diſpute. It is then that the victor immediately takes poſſeſſion, and parades it in his new conqueſt three or four times back and forward upon the ſtrand before his envious antagoniſt. When this animal is taken, it ſends forth a feeble cry, endeavouring to ſeize the enemy with its nippers; which if it faſtens upon, it will ſooner die than quit the graſp.

The hermit-crabs frequent moſtly thoſe parts of the ſea-ſhores which are covered with ſhrubs and trees, producing various wild fruits on which they ſubſiſt; though they will alſo feed on the fragments of fiſh and other animal ſubſtances caſt on ſhore. When roaſted in the ſhell, they are eſteemed delicate. The hermit-crab, hung in the air, diſſolves into a kind of oil, which ſpeedily cures the rheumatiſm, if rubbed upon the part.

11. The vocans, or ſand-crab, is but of a ſmall ſize; its colour light brown, or duſky white. It has eight legs, and two claws, one of which is double the ſize of the other: theſe claws ſerve both to defend and to feed themſelves with. The head has two ſquare holes, which are receptacles for its eyes; out of which it thruſts them, and draws them in again at pleaſure. Their abode is only on the ſandy ſhores of Bathera, and many others of the Bahama iſlands. They run very faſt, and retreat from danger into little holes they make in the ſand.

12. The grapſus, or red mottled crab, hath a round body, the legs longer and larger than in other kinds; the claws red; except which, the whole is mottled in a beautiful manner with red and white. Theſe crabs inhabit the rocks hanging over the ſea; they are the nimbleſt of all others, and run with ſurpriſing agility along the upright ſide of a rock, and even under the rocks that hang horizontally below the water. This they are often neceſſitated to do for eſcaping the aſſaults of rapacious birds that purſue them. Theſe crabs never The pea-crab.

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Fig. 1. Cæsalpinia Brasiliensis
Brasil wood Tree.

Plate CXV.

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Cancer. never go to land; but frequent moſtly thoſe parts of the promontories and iſlands of rocks in and near the ſea, where, by the continual and violent agitation of the waves againſt the rocks, they are always wet, continually receiving the ſpray of the ſea, which often waſhes them into it; but they inſtantly return to the rock again, not being able to live under water, and yet requiring more of that element than any of the cruſtaceous kinds that are not fiſh.

13. The granulatus, or rough-ſhelled crab: theſe crabs are pretty large, and are commonly taken from the bottom of the ſea in ſhallow water; the legs are ſmall in proportion to the body; the two claws are remarkably large and flat. The whole ſhell is covered over with innumerable little tubercles like ſhagreen: the colour is brown, variouſly ſtained with purple.

14. The cancer erythropus, or red-claw crab, is of a ſmall ſize, and brown colour; it hath two claws of unequal bigneſs, red at the ends; and eight legs, which ſeem of leſs uſe to them than in other crabs; for when on the ground, they crawl with ſlow pace, dragging their bodies along; but they are moſtly ſeen graſping with their claws, and banging to ſome ſea-plant, or other marine ſubſtance.

15. The piſum, or pea-crab, with rounded and ſmooth thorax, entire and blunt; with a tail of the ſize of the body, which commonly is the bulk of a pea. It inhabits the muſcle, and has unjuſtly acquired the repute of being poiſonous. The ſwelling after eating of muſcles is wholly conſtitutional; for one that is affected by it, hundreds remain uninjured. Crabs either of this kind, or allied to them, the ancients believed to have been the conſentaneous inmates of the Pinna, and other bivalves; which, being too ſtupid to perceive the approach of their prey, were warned of it by their vigilant friend. Oppian tells the fable prettily.

In clouded deeps below, the *pinna* hides,
And through the ſilent paths obſcurely glides;
A ſtupid wretch, and void of thoughtful care,
He forms no bait, nor lays the tempting ſnare;
But the dull ſluggard boaſts a *crab* his friend,
Whoſe buſy eyes the coming prey attend.
One room contains them, and the partners dwell
Beneath the convex of one ſloping ſhell;
Deep in the watry vaſt the comrades rove,
And mutual intereſt binds their conſtant love;
That wiſer friend the lucky juncture tells,
When in the circuit of his gaping ſhells
Fiſh wand'ring enter; then the bearded guide
Warns the dull mate, and pricks his tender ſide;
He knows the hint, nor at the treatment grieves,
But hugs th' advantage, and the pain forgives;
His cloſing ſhells the *pinna* ſudden joins,
And 'twixt the preſſing ſides his prey confines:
Thus fed by mutual aid, the friendly pair
Divide their gains, and all the plunder ſhare.

16. The mænas, or common crab, with three notches on the front; five ſerrated teeth on each ſide; claws ovated; next joint toothed; hint feet fubulated; dirty green colour; red when boiled. It inhabits all our ſhores; and lurks under the algæ, or burrows under the ſand. Is ſold, and eaten by the poor of our capitals.

17. The pagurus, or black clawed crab, with a crenated thorax; ſmooth body; quinquedentated front; ſmooth claws and black tips; hind feet ſubulated. It inhabits the rocky coaſts; is the moſt delicious meat of any; caſts its ſhell between Chriſtmas and Eaſter. The tips of the claws of this ſpecies are uſed in medicine; intended to abſorb acidities in the ſtomach and bowels. Cancer.

18. The velutinus, or velvet crab, with the thorax quinquedentated; body covered with ſhort, brown, velvet-like pile; claws covered with minute tubercles; ſmall ſpines round the top of the ſecond joint; hind legs broadly ovated.—This is among the ſpecies taken notice of by Ariſtotle on account of the broad feet, which, he ſays, aſſiſt them in ſwimming; as web-feet do the water-fowl. It inhabits the weſtern coaſt of Angleſea.

19. The horridus, or horrid-crab, with a projecting bifurcated ſnout, the end diverging; body heart-ſhaped; with the claws and legs covered with long and very ſharp ſpines.—It is a large ſpecies, and inhabits the rocks on the eaſtern coaſts of Scotland. It is common to Norway and Scotland, as many of the marine animals and birds are.

20. The ruricola, land-crab, or violet-crab, with a ſmooth entire thorax, and the two laſt joints of the feet armed with ſpines. It inhabits the Bahama iſlands, as well as moſt lands between the tropics; and feeds upon vegetables. Violet-crab.

Theſe animals live not only in a kind of orderly ſociety in their retreats in the mountains, but regularly once a year march down to the ſea-ſide in a body of ſome millions at a time. As they multiply in great numbers, they chooſe the month of April or May to begin their expedition; and then ſally out by thouſands from the ſtumps of hollow trees, from the cleſts of rocks, and from the holes which they dig for themſelves under the ſurface of the earth. At that time the whole ground is covered with this band of adventurers; there is no ſetting down one's foot without treading upon them. The ſea is their place of deſtination, and to that they direct their march with right-lined preciſion. No geometrician could ſend them to their deſtined ſtation by a ſhorter courſe; they neither turn to the right nor left, whatever obſtacles intervene; and even if they meet with a houſe, they will attempt to ſcale the walls to keep the unbroken tenor of their way. But though this be the general order of their route, they, upon other occaſions, are obliged to conform to the face of the country; and if it is interſected with rivers, they are then ſeen to wind along the courſe of the ſtream. The proceſſion ſets forward from the mountains with the regularity of an army under the guidance of an experienced commander. They are commonly divided into three battalions; of which the firſt conſiſts of the ſtrongeſt and boldeſt males, that, like pioneers, march forward to clear the route and face the greateſt dangers. Theſe are often obliged to halt for want of rain, and to go into the moſt convenient encampment till the weather changes. The main body of the army is compoſed of females, which never leave the mountains till the rain is ſet in for ſome time, and then deſcend in regular battalia, being formed into columns of 50 paces broad, and three miles deep, and ſo cloſe that they almoſt cover the ground. Three or four days after this, the rear-guard follows, a ſtraggling

Cancer. gling undiſciplined tribe, conſiſting of males and females, but neither ſo robuſt nor ſo vigorous as the former. The night is their chief time of proceeding; but if it rains by day, they do not fail to profit by the occaſion; and they continue to move forward in their ſlow uniform manner. When the ſun ſhines and is hot upon the ſurface of the ground, they then make an univerſal halt, and wait till the cool of the evening. When they are terrified, they march back in a confuſed diſorderly manner, holding up their nippers, with which they ſometimes tear off a piece of the ſkin, and then leave the weapon where they inflicted the wound. They even try to intimidate their enemies; for they often clatter their nippers together, as if it were to threaten thoſe that come to diſturb them. But tho' they thus ſtrive to be formidable to man, they are much more ſo to each other; for they are poſſeſſed of one moſt unſocial property, which is, that if any of them by accident is maimed in ſuch a manner as to be incapable of proceeding, the reſt fall upon and devour it on the ſpot, and then purſue their journey.

When, after a fatiguing march, and eſcaping a thouſand dangers, (for they are ſometimes three months in getting to the ſhore), they have arrived at their deſtined port, they prepare to caſt their ſpawn. The peas are as yet within their bodies, and not excluded as is uſual in animals of this kind, under the tail; for the creature waits for the benefit of ſea-water to help the delivery. For this purpoſe the crab has no ſooner reached the ſhore, than it eagerly goes to the edge of the water, and lets the waves waſh over its body two or three times. This ſeems only a preparation for bringing their ſpawn to maturity; for, without farther delay, they withdraw to ſeek a lodging upon land: in the mean time the ſpawn grows larger, is excluded out of the body, and ſticks to the barbs under the flap, or more properly the tail. This bunch is ſeen as big as an hen's egg, and exactly reſembling the roes of herrings. In this ſtate of pregnancy they once more ſeek the ſhore for the laſt time; and ſhaking off their ſpawn into the water, leave accident to bring it to maturity. At this time whole ſhoals of hungry fiſh are at the ſhore in expectation of this annual ſupply; the ſea to a great diſtance ſeems black with them; and about two thirds of the crabs eggs are immediately devoured by theſe rapacious invaders. The eggs that eſcape are hatched under the ſand; and, ſoon after, millions at a time of theſe little crabs are ſeen quitting the ſhore, and ſlowly travelling up to the mountains. The old ones, however, are not ſo active to return; they have become ſo feeble and lean, that they can hardly creep along, and the fleſh at that time changes its colour. The moſt of them, therefore, are obliged to continue in the flat parts of the country till they recover, making holes in the earth, which they cover at the mouth with leaves and dirt, ſo that no air may enter. There they throw off their old ſhells, which they leave, as it were, quite whole; the place where they opened on the belly being unſeen. At that time they are quite naked, and almoſt without motion for ſix days together, when they become ſo fat as to be delicious food. They have then under their ſtomachs four large white ſtones, which gradually decreaſe in proportion as the ſhell hardens, and, when they come to perfection, are not to be found. It is at that time that the animal is ſeen ſlowly making its way back; and all this is moſt commonly performed in the ſpace of ſix weeks. Cancer.

This animal, when poſſeſſed of its retreats in the mountains, is impregnable: for, only ſubſiſting upon vegetables, it ſeldom ventures out; and its habitation being in the moſt inacceſſible places, it remains for a great part of the ſeaſon in perfect ſecurity. It is only when impelled by the deſire of bringing forth its young, and when compelled to deſcend into the flat country, that it is taken. At that time the natives wait for its deſcent in eager expectation, and deſtroy thouſands; but, diſregarding their bodies, they only ſeek for that ſmall ſpawn which lies on each ſide of the ſtomach within the ſhell, of about the thickneſs of a man's thumb. They are much more valuable upon their return after they have caſt their ſhell; for, being covered with a ſkin reſembling ſoft parchment, almoſt every part except the ſtomach may be eaten. They are taken in the holes by feeling for them with an inſtrument; they are fought after by night, when on their journey, by flambeaux. The inſtant the animal perceives itſelf attacked, it throws itſelf on its back, and with its claws pinches moſt terribly whatever it happens to faſten on. But the dexterous crab-catcher takes them by the hinder legs in ſuch a manner that the nippers cannot touch him, and thus he throws them into his bag. Sometimes alſo they are caught when they take refuge in the bottoms of holes in rocks by the ſea-ſide, by clapping a ſtick at the mouth of the hole, which prevents their getting out; and then ſoon after, the tide coming, enters the hole, and the animal is found, upon its retiring, drowned in its retreat.

Theſe crabs are of various ſizes, the largeſt about ſix inches wide; they walk ſide-ways like the ſea-crab, and are ſhaped like them: ſome are black, ſome yellow, ſome red, and others variegated with red, white, and yellow mixed. Some of theſe are poiſonous; and ſeveral people have died of eating of the crabs, particularly of the black kind. The light-coloured are reckoned beſt; and when full in fleſh, are very well taſted. In ſome of the ſugar iſlands they are eat without danger; and are no ſmall help to the negro ſlaves, who, on many of theſe iſlands, would fare very hard without them.

Cancer, in medicine, a roundiſh, unequal, hard, and livid tumour, generally ſeated in the glandulous parts of the body, ſuppoſed to be ſo called, becauſe it appears at length with turgid veins ſhooting out from it, ſo as to reſemble, as it is thought, the figure of a crab-fiſh; or, others ſay, becauſe, like that fiſh, where it has once got, it is ſcarce poſſible to drive it away. See (the *Index* ſubjoined to) Medicine.

Cancer, in aſtronomy, one of the twelve ſigns, repreſented on the globe in the form of a crab, and thus marked (♋) in books. It is the fourth conſtellation in the ſtarry zodiac, and that from which one quadrant of the ecliptic takes its denomination. The reaſon generally aſſigned for its name as well as figure, is a ſuppoſed reſemblance which the ſun's motion in this ſign bears to the crab-fiſh. As the latter walks backwards, ſo the former, in this part of his courſe, begins to go backwards, or recede from us; though the diſpoſi-

Cancherizante. ‖ Candahar.

disposition of stars in this sign is by others supposed to have given the first hint to the representation of a crab.

Tropic of CANCER, in astronomy, a lesser circle of the sphere parallel to the equator, and passing through the beginning of the sign Cancer.

CANCHERIZANTE, or CANCHERIZATO, in the Italian music, a term signifying a piece of music that begins at the end, being the retrograde motion from the end of a song, &c. to the beginning.

CANCROMA, or BOAT-BILL, in ornithology, a genus of birds belonging to the order of *Grallæ*; the characters of which are: The bill is broad, with a keel along the middle; the nostrils are small, and lodged in a furrow; the tongue is small; and the toes are divided. There are two species:

1. The Cochlearia, or Crested Boat-bill, is of the size of a fowl; the length 22 inches. The bill is four inches long, and of a singular form, not unlike a boat with the keel uppermost, or, as some think, like the bowls of two spoons, placed with the hollow parts together; the upper mandible has a prominent ridge at the top, and on each side of this a long channel, at the bottom of which the nostrils are placed; these are oval, and situated obliquely; the general colour of the bill is dusky, or in some specimens dark brown; the skin between the under jaw capable of distension: from the hind head springs a long black crest, the feathers which compose it narrow, and end in a point; the middle ones are six inches in length, the others lessen by degrees, the outer ones being not more than one inch: between the bill and eye the skin is bare and dusky; the plumage on the forehead white; the rest of the bird of a pale bluish ash-colour; across the lower part of the neck behind is a transverse band of brownish black, which passes forwards on each side towards the breast, ending in a point, but does not encompass it: the fore part of the neck, and under parts, are bluish white, except the belly and thighs, which are rufous: the feathers which hang over the breast are loose, like those of the heron: the tail is three inches and a half long, and the wings, when closed, reach nearly to the end of it: the leg is three inches in length; and the thigh, from its insertion to the knee, four; the middle toe two inches and a half; the bare part above the knee one inch and a half: the colour of the bare parts yellowish brown; claws black: the toes are connected at the base by a membrane, which, as in the umbre, is deepest in the outer one.—It inhabits Cayenne, Guiana, and Brasil, and chiefly frequents such parts as are near the water: in such places it perches on the trees which hang over the streams, and, like the kings-fisher, drops down on the fish which swim beneath. It has been thought to live on crabs likewise, whence the Linnæan name

Plate CXVI 2. The Canerophaga, or Brown Boat-bill, a distinct species, according to Linnæus, but which Mr Lathan considers as only a variety, is of the size of the former; the head and crest the same; the upper parts, instead of ash-colour, are of a pale rufous brown; the tail rufous ash; and the under parts wholly of a cream colour; the bill and legs of a yellow brown. Its place and manners the same with those of the preceding.

CANDAHAR, a province of Persia, bounded on the north by the province of Balk; on the east, by that of Cabul; on the south, by Buchor and Sableſtan; and on the west, by Sigestan. There have been bloody wars between the Indians and Persians on account of this province; but in 1650 it fell to the Persians. The inhabitants are known by the name of *Aghuans*, or *Affghans*, who have often endeavoured to throw off the yoke. But, in 1737, they were severely punished for such an attempt. See PERSIA. Candahar ‖ Candia.

CANDAHAR, the capital of the above province, is seated on a mountain; and being a place of great trade, has a considerable fortress. The caravans that travel from Persia and the parts about the Caspian sea to the East Indies, choose to pass through Candahar, because there is no danger of being robbed on this road, and provisions are very reasonable. The religion is Mahometanism, but there are many Banians and Guebres. E. Long. 67. 5. N. Lat. 33. 0.

CANDAULES, the last king of Lydia, of the family of the Heraclides. See LYDIA.

CANDELARES (from *candela* a candle), the name of an order in the former editions of Linnæus's Fragments of a natural method, consisting of these three genera, *rhizophora*, *nyssa*, and *mimusops*. They are removed, in the latter editions, into the order HOLORACEÆ; which see.

CANDIA, the modern name of the island of Crete (see CRETE). The word is a variation of *Khanda*, which was originally the Arabian name of the metropolis only, but in time came to be applied to the whole island.

Candia came into the possession of the Venetians by purchase in the year 1194, as related under the article CRETE; and soon began to flourish under the laws of that wise republic. The inhabitants, living under the protection of a moderate government, and being encouraged by their masters, engaged in commerce and agriculture. The Venetian commandants readily afforded to those travellers who visited the island, that assistance which is necessary to enable them to extend and improve useful knowledge. Belon, the naturalist, is lavish in praise of their good offices, and describes, in an interesting manner, the flourishing state of that part of the island which he visited.

The seat of government was established at Candia. The magistrates and officers, who composed the council, resided there. The provisor-general was president. He possessed the chief authority; and his power extended over the whole principality. It continued in the possession of the Venetians for five centuries and an half. Cornaro held the chief command at the time when it was threatened with a storm, on the side of Constantinople. The Turks, for the space of a year, had been employed in preparing a vast armament. They deceived the Venetian, by assuring him that it was intended against Malta. In the year 1645, in the midst of a solemn peace, they appeared unexpectedly before Crete with a fleet of 400 sail, having on board 60,000 land forces, under the command of four pachas. The emperor Ibrahim, under whom this expedition was undertaken, had no fair pretext to offer in justification of his enterprize. He made use of all that perfidy which characterizes the people of the east, to impose on the Venetian senate. He loaded their ambassador with presents, directed his fleet to bear for Cape Matapan, as if they had been going beyond the

Archi-

Candia. Archipelago; and cauſed the governors of Tina and Cerigna to be ſolemnly aſſured, that the republic had nothing to fear for her poſſeſſions. At the very inſtant when he was making thoſe aſſurances, his naval armament entered the gulf of Canea; and, paſſing between that city and St Theodore, anchored at the mouth of Platania.

The Venetians, not expecting this ſudden attack, had made no preparations to repel it. The Turks landed without oppoſition. The iſle of St Theodore is but a league and an half from Canea. It is only three quarters of a league in compaſs. The Venetians had erected two forts there; one of which, ſtanding on the ſummit of the higheſt eminence, on the coaſt of that little iſle, was called Turlurn; the other, on a lower ſituation, was named St Theodore. It was an important object to the Muſſulmans to make themſelves maſters of that rock, which might annoy their ſhips. They immediately attacked it with ardour. The firſt of thoſe fortreſſes, being deſtitute of ſoldiers and cannon, was taken without ſtriking a blow. The garriſon of the other conſiſted of no more than 60 men. They made a gallant defence, and ſtood out till the laſt extremity; and when the Turks at laſt prevailed, their number was diminiſhed to ten, whom the captain-pacha cruelly cauſed to be beheaded.

Being now maſters of that important poſt, as well as of Lazaret, an elevated rock, ſtanding about half a league from Canea, the Turks inveſted the city by ſea and land. General Cornaro was ſtruck, as with a thunder-clap, when he learned the deſcent of the enemy. In the whole iſland there were no more than a body of 3500 infantry, and a ſmall number of cavalry. The beſieged city was defended only by 1000 regular troops, and a few citizens, who were able to bear arms. He made haſte to give the republic notice of his diſtreſs; and poſted himſelf off the road, that he might the more readily ſuccour the beſieged city. He threw a body of 250 men into the town, before the lines of the enemy were completed. He afterwards made ſeveral attempts to ſtrengthen the beſieged with other reinforcements; but in vain. The Turks had advanced in bodies cloſe to the town, had carried a half-moon battery, which covered the gate of Retimo; and were battering the walls night and day with their numerous artillery. The beſieged defended themſelves with reſolute valour, and the ſmalleſt advantage which the beſiegers gained coſt them dear. General Cornaro made an attempt to arm the Greeks, particularly the Spachiots, who boaſted loudly of their valour. He formed a battalion of theſe. But the æra of their valour was long paſt. When they beheld the enemy, and heard the thunder of the cannon, they took to flight; not one of them would ſtand fire.

While the ſenate of Venice were deliberating on the means to be uſed for relieving Canea, and endeavouring to equip a fleet, the Mahometan generals were ſacrificing the lives of their ſoldiers to bring their enterpriſe to a glorious termination. In different engagements they had already loſt 20,000 warriors; but, deſcending into the ditches, they had undermined the walls, and blown up the moſt impregnable forts with exploſions of powder. They ſprung one of thoſe mines beneath the baſtion of St Demetri. It overturned a conſiderable part of the wall, which cruſhed all the defenders of the baſtion. That inſtant the beſiegers Candia. ſprung up with their ſabres in their hands, and taking advantage of the general conſternation of the beſieged on that quarter, made themſelves maſters of the poſt. The beſieged, recovering from their terror, attacked them with unequalled intrepidity. About 400 men aſſailed 2000 Turks already firmly poſted on the wall, and preſſed upon them with ſuch obſtinate and daunt-leſs valour, that they killed a great number, and drove the reſt down into the ditch. In this extremity, every perſon in the city was in arms. The Greek monks took up muſkets; and the women, forgetting the delicacy of their ſex, appeared on the walls among the defenders, either ſupplying the men with ammunition and arms, or fighting themſelves; and ſeveral of thoſe daring heroines loſt their lives.

For 50 days the city held out againſt all the forces of the Turks. If, even at the end of that time, the Venetians had ſent a naval armament to its relief, the kingdom of Candia might have been ſaved. Doubtleſs, they were not ignorant of this well known fact. The north wind blows ſtraight into the harbour of Canea. When it blows a little briſkly, the ſea rages. It is then impoſſible for any ſquadron of ſhips, however numerous, to form in line of battle in the harbour, and to meet an enemy. If the Venetians had ſet out from Cerigo with a fair wind, they might have reached Canea in five hours, and might have entered the harbour with full ſails, without being expoſed to one cannon-ſhot; while none of the Turkiſh ſhips would have dared to appear before them; or if they had ventured, muſt have been driven back on the ſhore, and daſhed in pieces among the rocks. But, inſtead of thus taking advantage of the natural circumſtances of the place, they ſent a few galleys, which, not daring to double Cape Spada, coaſted along the ſouthern ſhore of the iſland, and failed of accompliſhing the deſign of their expedition.

At laſt, the Caneans, deſpairing of relief from Venice, ſeeing three breaches made in their walls, thro' which the infidels might eaſily advance upon them, exhauſted with fatigue, and covered with wounds, and reduced to the number of 500 men, who were obliged to ſcatter themſelves round the walls, which were half a league in extent, and undermined in all quarters, demanded a parley, and offered to capitulate. They obtained very honourable conditions; and after a glorious defence of two months, which coſt the Turks 20,000 men, marched out of the city with the honours of war. Thoſe citizens, who did not chuſe to continue in the city, were permitted to remove; and the Ottomans, contrary to their uſual practice, faithfully obſerved their ſtipulations.

The Venetians, after the loſs of Canea, retired to Retimo. The captain-pacha laid ſiege to the citadel of the Sude, ſituated in the entrance of the bay, on an high rock, of about a quarter of a league in circumference. He raiſed earthen-batteries, and made an ineffectual attempt to level its ramparts. At laſt, deſpairing of taking it by aſſault, he left ſome forces to block it up from all communication, and advanced towards Retimo. That city, being unwalled, was defended by a citadel, ſtanding on an eminence which overlooks the harbour. General Cornaro had retired thither. At the approach of the enemy, he advanced

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Candia. from the city, and waited for them in the open field. In the action, inattentive to his own ſafety, he encouraged the ſoldiers, by fighting in the ranks. A glorious death was the reward of his valour; but his fall determined the fate of Retimo.

The Turks having landed additional forces on the iſland, they introduced the plague, which was almoſt a conſtant attendant on their armies. This dreadful peſt rapidly advanced, and, like a devouring fire, waſting all before it, deſtroyed moſt part of the inhabitants. The reſt, fleeing in terror before its ravages, eſcaped into the Venetian territories, and the iſland was left almoſt deſolate.

The ſiege of the capital commenced in 1646, and was protracted much longer than that of Troy. Till the year 1648, the Turks ſcarce gained any advantages before that city. They were often routed by the Venetians, and ſometimes compelled to retire to Retimo. At that period Ibrahim was ſolemnly depoſed, and his eldeſt ſon, at the age of nine years, was raiſed to the throne, under the name of Mahomet IV. Not ſatisfied with confining the ſultan to the horrors and obſcurity of a dungeon, the partizans of his ſon ſtrangled him on the 19th of Auguſt, in the ſame year. That young prince, who mounted the throne by the death of his father, was afterwards expelled from it, and condemned to paſs the remainder of his life in confinement.

In the year 1649, Uſſein Pacha, who blockaded Candia, receiving no ſupplies from the Porte, was compelled to raiſe the ſiege, and retreat to Canea. The Venetians were then on the ſea with a ſtrong ſquadron. They attacked the Turkiſh fleet in the bay of Smyrna, burnt 12 of their ſhips and 2 gallies, and killed 6000 of their men. Some time after, the Mahometans having found means to land an army on Candia, renewed the ſiege of the city with greater vigour, and made themſelves maſters of an advanced fort that was very troubleſome to the beſieged; which obliged them to blow it up.

From the year 1650 till 1658, the Venetians, continuing maſters of the ſea, intercepted the Ottomans every year in the ſtraits of the Dardanelles, and fought them in four naval engagements; in which they defeated their numerous fleets, ſunk a number of their caravels, took others, and extended the terror of their arms even to the walls of Conſtantinople. That capital became a ſcene of tumult and diſorder. The Grand Signior, alarmed, and trembling for his ſafety, left the city with precipitation.

Such glorious ſucceſs revived the hopes of the Venetians, and depreſſed the courage of the Turks. They converted the ſiege of Candia into a blockade, and ſuffered conſiderable loſſes. The Sultan, in order to exclude the Venetian fleet from the Dardanelles, and to open to his own navy a free and ſafe paſſage, cauſed two fortreſſes to be built at the entrance of the ſtraits. He gave orders to the Pacha of Canea to appear again before the walls of Candia, and to make every poſſible effort to gain the city. In the mean time, the republic of Venice, to improve the advantages which they had gained, made ſeveral attempts on Canea. In 1660, that city was about to ſurrender to their arms, when the Pacha of Rhodes, haſtening to its relief, reinforced the defenders with a body of 2000 men. He happily doubled the extremity of Cape Melec, though within ſight of the Venetian fleet, which was becalmed off Cape Spada, and could not advance one fathom to oppoſe an enemy conſiderably weaker than themſelves. Candia.

Kiopruli, ſon and ſucceſſor to the viſir of that name, who had long been the ſupport of the Ottoman empire, knowing that the murmurs of the people againſt the long continuance of the ſiege of Candia were riſing to an height, and fearing a general revolt, which would be fatal to himſelf and his maſter, ſet out from Byzantium about the end of the year 1666 at the head of a formidable army. Having eſcaped the Venetian fleet, which was lying off Canea with a view to intercept him, he landed at *Palio Caſtro*, and formed his lines around Candia. Under his command were four Pachas, and the flower of the Ottoman forces. Thoſe troops, being encouraged by the preſence and the promiſes of their chiefs, and ſupported by a great quantity of artillery, performed prodigies of valour. All the exterior forts were deſtroyed. Nothing now remained to the beſieged but the bare line of the walls, unprotected by fortreſſes; and theſe being battered by an inceſſant diſcharge of artillery, ſoon gave way on all quarters. Still, however, what poſterity may perhaps regard as incredible, the Caneans held out three years againſt all the forces of the Ottoman empire. At laſt they were going to capitulate, when the hope of aſſiſtance from France reanimated their valour, and rendered them invincible. The expected ſuccours arrived on the 26th of June 1669. They were conducted by the duke of Noailles. Under his command were a great number of French noblemen, who came to make trial of their ſkill in arms againſt the Turks.

Next day after their arrival, the ardour of the French prompted them to make a general ſally. The duke of Beaufort, admiral of France, aſſumed the command of the forlorn hope. He was the firſt to advance againſt the Muſſulmans, and was followed by a numerous body of infantry and cavalry. They advanced furiouſly upon the enemy, attacked them within their trenches, forced the trenches, and would have compelled them to abandon their lines and artillery, had not an unforeſeen accident damped their courage. In the midſt of the engagement a magazine of powder was ſet on fire; the foremoſt of the combatants loſt their lives; the French ranks were broken; ſeveral of their leaders, among whom was the duke of Beaufort, diſappeared for ever; the ſoldiers fled in diſorder; and the duke of Noailles, with difficulty, effected a retreat within the walls of Candia. The French accuſed the Italians of having betrayed them; and on that pretext prepared to ſet off ſooner than the time agreed upon. No intreaties of the commandant could prevail with them to delay their departure; ſo they reimbarked. Their departure determined the fate of the city. There were now no more than five hundred men to defend it. Moroſini capitulated with Kiopruli, to whom he ſurrendered the kingdom of Crete, excepting only the Sude, Grabuſa, and Spina-Longua. The grand viſir made his entrance into Candia on the 4th of October 1670; and ſtayed eight months in that city, inſpecting the reparation of its walls and fortreſſes.

The three fortreſſes left in the hands of the Vene-

Candia. tians by the treaty of capitulation remained long after in their poſſeſſion. At laſt they were all taken, one after another. In ſhort, after a war of thirty years continuance, in the courſe of which more than two hundred thouſand men fell in the iſland, and it was deluged with ſtreams of Chriſtian and Mahometan blood, Candia was entirely ſubdued by the Turks, in whoſe hands it ſtill continues.

Of the climate of Candia travellers ſpeak with rapture. The heat is never exceſſive; and in the plains violent cold is never felt. In the warmeſt days of ſummer the atmoſphere is cooled by breezes from the ſea. Winter properly begins here with December and ends with January; and during that ſhort period ſnow never falls on the the lower grounds, and the ſurface of the water is rarely frozen over. Moſt frequently the weather is as fine then as it is in Britain at the beginning of June. Theſe two months have received the name of *winter*, becauſe in them there is a copious fall of rain, the ſky is obſcured with clouds, and the north winds blow violently; but the rains are favourable to agriculture, the winds chaſe the clouds towards the ſummits of the mountains, where a repoſitory is formed for thoſe waters which are to fertilize the fields; and the inhabitants of the plain ſuffer no inconvenience from theſe tranſient blaſts. In the month of February, the ground is overſpread with flowers and riſing crops. The reſt of the year is almoſt one continued fine day. The inhabitants of Crete never experience any of thoſe mortifying returns of piercing cold, which are ſo frequently felt in Britain and even more ſouthern countries; and which, ſucceeding ſuddenly after the cheriſhing heats of ſpring, nip the bloſſoming flowers, wither the open buds, deſtroy half the fruits of the year, and are fatal to delicate conſtitutions. The ſky is always unclouded and ſerene; the winds are mild and refreſhing breezes. The radiant ſun proceeds in ſmiling majeſty along the azure vault, and ripens the fruits on the lofty mountains, the riſing hills, and the plains. The nights are no leſs beautiful; their coolneſs is delicious. The atmoſphere not being overloaded with vapours, the ſky unfolds to the obſerver's view a countleſs profuſion of ſtars; thoſe numerous ſtars ſparkle with the moſt vivid rays, and ſtrew the azure vault in which they appear fixed, with gold, with diamonds, and with rubies. Nothing can be more magnificent than this ſight, and the Cretans enjoy it for ſix months in the year.

To the charms of the climate other advantages are joined which augment their value: There are ſcarce any moraſſes in the iſland; the waters never ſtand here in a ſtate of ſtagnation; they flow in numberleſs ſtreams from the tops of the mountains, and form here and there large fountains or ſmall rivers that empty themſelves into the ſea; the elevated ſituation of their ſprings cauſes them to daſh down with ſuch rapidity, that they never loſe themſelves in pools or lakes; conſequently inſects cannot depoſit their eggs upon them, as they would be immediately hurried down into the ſea; and Crete is not infeſted like Egypt with thoſe clouds of inſects which ſwarm in the houſes, and whoſe ſting is inſufferably painful; nor is the atmoſphere here loaded with thoſe noxious vapours which riſe from marſhy grounds.

The mountains and hills are overſpread with various kinds of thyme, ſavoury, wild thyme, and with a multitude of odoriferous and balſamic plants; the rivulets which flow down the vallies are overhung with myrtles and laurel roſes; clumps of orange, citron, and almond trees, are plentifully ſcattered over the fields; the gardens are adorned with tufts of Arabian jaſmine. In ſpring, they are beſtrewed with beds of violets; ſome extenſive plains are arrayed in ſaffron; the cavities of the rocks are fringed with ſweet ſmelling dittany. In a word, from the hills, the vales, and the plains, on all hands, there ariſe clouds of exquiſite perfumes, which embalm the air, and render it a luxury to breathe it. Candia.

As to the inhabitants, the Mahometan men are generally from five feet and an half to ſix feet tall. They bear a ſtrong reſemblance to ancient ſtatues; and it muſt have been after ſuch models that the ancient artiſts wrought. The women alſo are generally beautiful. Their dreſs does not reſtrain the growth of any part of their bodies, and their ſhape therefore aſſumes thoſe admirable proportions with which the hand of the Creator has graced his faireſt workmanſhip on earth. They are not all handſome or charming; but ſome of them are beautiful, particularly the Turkiſh ladies. In general, the Cretan women have a riſing throat, a neck gracefully rounded, black eyes ſparkling with animation, a ſmall mouth, a fine noſe, and cheeks delicately coloured with the freſh vermilion of health. But the oval of their form is different from that of Europeans, and the character of their beauty is peculiar to their own nation.

The quadrupeds belonging to the iſland are not of a ferocious temper. There are no lions, tigers, bears, wolves, foxes, nor indeed any dangerous animal here. Wild goats are the only inhabitants of the foreſts that overſpread the lofty mountains; and theſe have nothing to fear but the ball of the hunter; hares inhabit the hills and the plain; ſheep graze in ſecurity on the thyme and the heath; they are folded every night, and the ſhepherd ſleeps ſoundly without being diſturbed with the fear that wild animals may invade and ravage his folds.

The Cretans are very happy in not being expoſed to the troubleſome bite of noxious inſects, the poiſon of ſerpents, and the rapacity of the wild beaſts of the deſart. The ancients believed that the iſland enjoyed theſe ſingular advantages, on account of its having been the birth-place of Jupiter. "The Cretans (ſay Ælian) celebrate in their ſongs the beneficence of Jupiter, and the favour which he conferred on their iſland, which was the place of his birth and education, by freeing it from every noxious animal, and even rendering it unfit for nouriſhing thoſe noxious animals that are introduced into it from foreign countries."

Dittany holds the firſt rank among the medicinal plants which are produced in Crete. The praiſes beſtowed on the virtues of this plant by the ancients are altogether extravagant; yet we perhaps treat the medicinal virtues of this plant with too much contempt. Its leaf is very balſamic, and its flower diffuſes around it a delicious odour. At preſent the inhabitants of the iſland apply it with ſucceſs on various occaſions. The leaf, when dried and taken in an infuſion with a little ſugar, makes a very pleaſant drink, of a finer flavour than tea. It is there an immediate cure for a weak

Candia

weak ſtomach, and enables it to recover its tone after a bad digeſtion.

Diſeaſes are very rare in a country whoſe atmoſphere is exceedingly pure; and in Candia, epidemical diſeaſes are unknown. Fevers prevail here in ſummer, but are not dangerous; and the plague would be wholly unknown, had not the Turks deſtroyed the lazarets that were eſtabliſhed by the Venetians, for ſtrangers to do quarantine in. Since the period when theſe were demoliſhed, it is occaſionally introduced by ſhips from Smyrna and Conſtantinople. As no precautions are taken againſt it, it gains ground, and ſpreads over the iſland from one province to another; and as the colds and heats are never intemperate, it ſometimes continues its ravages for ſix months at a time.

This fine country is infeſted with a diſeaſe ſomewhat leſs dangerous than the plague, but whoſe ſymptoms are ſomewhat more hideous; that diſeaſe is the leproſy. In ancient times, Syria was the focus in which it raged with moſt fury: and from Syria it was carried into ſeveral of the iſlands of the Archipelago. It is infectious, and is inſtantaneouſly communicated by contact. The victims who are attacked by it, are driven from ſociety, and confined to little ruinous houſes on the highway. They are ſtrictly forbidden to leave theſe miſerable dwellings, or hold intercourſe with any perſon. Thoſe poor wretches have generally beſide their huts a ſmall garden producing pulſe, and feeding poultry; and with that ſupport, and what they obtain from paſſengers, they find means to drag out a painful life in circumſtances of ſhocking bodily diſtreſs. Their bloated ſkin is covered with a ſcaly cruſt, ſpeckled with red and white ſpots; which afflict them with intolerable itchings. A hoarſe and tremulous voice iſſues from the bottom of their breaſts. Their words are ſcarce articulated; becauſe their diſtemper inwardly preys upon the organs of ſpeech. Theſe frightful ſpectres gradually loſe the uſe of their limbs. They continue to breathe till ſuch time as the whole maſs of their blood is corrupted, and their bodies entirely in a ſtate of putrefaction. The rich are not attacked by this diſtemper: it confines itſelf to the poor, chiefly to the Greeks. But thoſe Greeks obſerve ſtrictly their four lents; and eat nothing during that time but ſalt fiſh, botorgo, ſalted and ſmoked pickled olives, and cheeſe. They drink plentifully of the hot and muddy wines of the iſland. The natural tendency of ſuch a regimen muſt be, to fire the blood, to thicken the fluid part of it, and thus at length to bring on a leproſy.

Candia is at preſent governed by three Pachas, who reſide reſpectively at Candia, Canea, and Retimo. The firſt, who is always a Pacha of three tails, may be conſidered as viceroy of the iſland. He enjoys more extenſive powers than the others. To him the inſpection of the forts and arſenals is entruſted. He nominates to ſuch military employments as fall vacant, as well as to the governments of the Sude, Grabuſa, Spina Longua, and Gira-petra. The governors of theſe forts are denominated Beys. Each of them has a conſtable and three general officers under him: one of whom is commander of the artillery; another of the cavalry; and the third of the janiſſaries.

The council of the pacha conſiſts of a kyaia, who is the channel through which all orders are iſſued, and all favours beſtowed; an aga of the janiſſaries, colonel-general of the troops, who has the chief care of the regulation of the police; two topigi bachi; a defterdar, who is treaſurer-general for the imperial revenues; a keeper of the imperial treaſury; and the chief officers of the army. This government is entirely military, and the power of the pacha ſeraſquier is abſolute. The juſtice of his ſentences is never called into queſtion; they are inſtantly carried into execution. Candia.

The people of the law are the mufti, who is the religious head, and the cadi. The firſt interprets thoſe laws which regard the diviſion of the patrimony among the children of a family, ſucceſſions, and marriages;—in a word, all that are contained in the Koran; and he alſo decides on every thing that relates to the ceremonies of the Muſſulman religion. The cadi cannot pronounce ſentence on affairs connected with theſe laws, without firſt taking the opinion of the mufti in writing, which is named *Faiſa*. It is his buſineſs to receive the declarations, complaints, and donations of private perſons; and to decide on ſuch differences as ariſe among them. The pacha is obliged to conſult thoſe judges when he puts a Turk legally to death; but the pacha, who is dignified with three tails, ſets himſelf above all laws, condemns to death, and ſees his ſentence executed, of his own proper authority. All the moſques have their Itam, a kind of curate, whoſe duty is to perform the ſervice. There are ſchoolmaſters in the different quarters of the city. Theſe perſons are much reſpected in Turky, and are honoured with the title of Effendi.

The garriſon of Candia conſiſts of forty-ſix companies, compoſing a military force of about ten thouſand men. All theſe forces do not reſide conſtantly in the city, but they may be moſtered in a very ſhort time. They are all regularly paid every three months, excepting the janiſſaries, none of whom but the officers receive pay. The different gradations of this military body do not depend on the pacha. The council of each company, conſiſting of veterans, and of officers in actual ſervice, has the power of naming to them. A perſon can occupy the ſame poſt for no longer than two years; but the poſt of *Sorbagi*, or captain, which is purchaſed at Conſtantinople, is held for life. The *ouſta*, or cook, is alſo continued in his employment as long as the company to which he belongs is ſatisfied with him. Each company has its almoner, denominated *imam*.

The garriſons of Canea and Retimo, formed on a ſimilar plan, are much leſs numerous. The firſt conſiſts of about three thouſand men, the other of five hundred; but as all the male children of the Turks are enrolled among the janiſſaries as ſoon as born, the number of theſe troops might be greatly augmented in time of war; but, to ſay the truth, they are far from formidable. Moſt of them have never ſeen fire, nor are they ever exerciſed in military evolutions.

The pachas of Canea and Retimo are no leſs abſolute, within the bounds of their reſpective provinces, than the pacha of Candia. They enjoy the ſame privileges with him, and their council conſiſts of the ſame officers. Theſe governors chief object is to get rich as ſpeedily as poſſible; and in order to accompliſh that end, they practiſe all the arts and cruelties of oppreſſion, to ſqueeze money from the Greeks. In truth,

Candia. thoſe poor wretches run to meet the chains with which they are loaded. Envy, which always preys upon them, continually prompts them to take up arms. If ſome one among them happen to enjoy a decent fortune, the reſt aſſiduouſly ſeek ſome pretence for accuſing him before the pacha, who takes advantage of theſe diſſentions, to ſeize the property of both the parties. It is by no means aſtoniſhing, that under ſo barbarous a government, the number of the Greeks is daily diminiſhed. There are ſcarcely 150,000 Greeks in the iſland, ſixty-five thouſand of whom pay the caracb.

The Turks have not poſſeſſed the iſland for more than one hundred and twenty years; yet, as they are not expoſed to the ſame oppreſſion, they have multiplied in it, and raiſed themſelves upon the ruin of the ancient inhabitants. Their number amounts to 200,000 Turks.

The Jews, of whom there are not many in the iſland, amount only to 200.

Total is 350,200 ſouls.

This fertile country is in want of nothing but induſtrious huſbandmen, ſecure of enjoying the fruit of their labours. It might maintain four times its preſent number of inhabitants.

Antiquity has celebrated the iſland of Crete as containing an hundred populous cities; and the induſtry of geographers has preſerved their names and ſituations. Many of theſe cities contained no fewer than thirty thouſand inhabitants;—and by reckoning them, on an average, at ſix thouſand each, we ſhall in all probability be rather within than beyond the truth. This calculation gives for an hundred cities 600,000

By allowing the ſame number as inhabitants of the towns, villages, and all the reſt of the iſland, 600,000

the whole number of the inhabitants of ancient Crete will amount to 1,200,000

This number cannot be exaggerated. When Candia was in the hands of the Venetians, it was reckoned to contain nine hundred fourſcore and ſixteen villages.

It appears, therefore, that when the iſland of Crete enjoyed the bleſſing of liberty, it maintained to the number of eight hundred and forty-nine thouſand eight hundred more inhabitants than it does at preſent. But ſince thoſe happier times, ſhe has been deprived of her laws by the tyranny of the Romans; has groaned under the deſtructive ſway of the monarchs of the lower empire; has been expoſed for a period of an hundred and twenty years to the ravages of the Arabians; has next paſſed under the dominion of the Venetians; and has at laſt been ſubjected to the deſpotiſm of the Turks, who have produced a dreadful depopulation in all the countries which have been ſubdued by their arms.

The Turks allow the Greeks the free exerciſe of their religion, but forbid them to repair their churches or monaſteries; and accordingly they cannot obtain permiſſion to repair their places of worſhip, or religious houſes, but by the powerful influence of gold. From this article the pachas derive very conſiderable ſums. They have twelve biſhops as formerly, the firſt of whom aſſumes the title of Archbiſhop of Gortynia. He reſides at Candia; in which city the metropolitan church of the iſland ſtands. He is appointed by the patriarch of Conſtantinople; and has the right of nominating to all the other biſhoprics of the iſland; the names of which are, Gortynia, Cnoſſou, Mirabella, Hyera, Gira-petra, Arcadia, Cherroneſe, Lambis, Milopotamo, Retimo, Canea, Ciſamo. Theſe biſhoprics are nearly the ſame as under the reign of the Greek emperors. The patriarch wears a triple tiara, writes his ſignature in red ink, and anſwers for all the debts of the clergy. To enable him to fulfil his engagements, he lays impoſitions on the reſt of the biſhops, and particularly on the monaſteries, from which he draws very handſome contributions. He is conſidered as the head of the Greeks, whom he protects, as far as his ſlender credit goes. The orders of government are directed to him on important occaſions; and he is the only one of all the Greeks in the iſland who enjoys the privilege of entering the city on horſeback. Candia.

Canoia, is the capital of the above iſland, ſituated on its northern coaſt, in E. Long. 25. 0. N. Lat. 35. 30. It ſtands on the ſame ſituation which was formerly occupied by Heraclea, and is the ſeat of government under the Turks. Its walls, which are more than a league in compaſs, are in good repair, and defended by deep ditches, but not protected by any exterior fort. Towards the ſea, it has no attacks to fear; becauſe the ſhallowneſs of the harbour renders it inacceſſible to ſhips of war.

The Porte generally commits the government of this iſland to a Pacha of three tails. The principal officers, and ſeveral bodies of the Ottoman ſoldiery, are ſtationed here. This city, when under the Venetians, was opulent, commercial, and populous; but it has now loſt much of its former ſtrength and grandeur. The harbour, naturally a fine baſon, in which ſhips are ſecurely ſheltered from every ſtorm, is every day becoming narrower and ſhallower. At preſent it admits only boats, and ſmall ſhips after they have diſcharged a part of their freight. Thoſe veſſels, which the Turks freight at Candia, are obliged to go almoſt empty to the ports of Standie, whither their cargoes are conveyed to them in barks. Such inconveniences are highly unfavourable to commerce; and as government never thinks of removing them, the trade of Candia is therefore conſiderably decayed.

Candia, which was embelliſhed by the Venetians with regular ſtreets, handſome houſes, a fine ſquare, and a magnificent ciſtern, contains at preſent but a ſmall number of inhabitants, notwithſtanding the vaſt extent of the area incloſed within its walls. Several diviſions of the city are void of inhabitants. That in which the market-place ſtands is the only one which diſcovers any ſtir of buſineſs, or ſhow of affluence. The Mahometans have converted moſt of the Chriſtian temples into moſques; yet they have left two churches to the Greeks, one to the Armenians, and a ſynagogue to the Jews. The Capuchins poſſeſs a ſmall convent, with a chapel in which the vice-conſul of France hears maſs. At preſent he is the only Frenchman who attends it, as the French merchants have taken up their reſidence at Canea.

Weſt of the city of Candia is an extenſive range of hills;

Candiac ‖ Candidati

hills, which are a continuation of mount Ida, and of which the extremity forms the promontory of Dioo. On the way to Dion, we find Palio Caſtro, on the ſhore; a name which the modern Greeks give indifferently to all remains of ancient cities. Its ſituation correſponds to that of the ancient Panormus, which ſtood north-weſt from Heraclea.

The river which runs weſt of Candia was anciently known by the name of Triton; near the ſource of which Minerva ſprung from the brain of Jove. Loaxus is a little farther diſtant. About a league eaſt of that city, the river Ceratus flows through a delightful vale. According to Strabo, in one part of its courſe it runs near by Gnoſſus. A little beyond that, is another river ſuppoſed to be Therenus, on the banks of which, fable relates that Jupiter conſummated his marriage with Juno. For the ſpace of more than half a league round the walls of Candia there is not a ſingle tree to be ſeen. The Turks cut them all down in the time of the ſiege, and laid waſte the gardens and orchards. Beyond that extent, the country is plentifully covered with corn and fruit trees. The neighbouring hills are overſpread with vineyards, which produce the malmſey of mount Ida,—worthy of preference at the table of the moſt exquiſite connoiſſeur in wines. That ſpecies of wine, though little known, has a fine flavour, a very pleaſant reliſh, and is highly eſteemed in the iſland.

CANDIAC (John Lewis), a premature genius, born at Candiac in the dioceſe of Niſmes in France, in 1719. In the cradle he diſtinguiſhed his letters: at 13 months, he knew them perfectly: at three years of age, he read Latin, either printed or in manuſcript: at four, he tranſlated from that tongue: at ſix, he read Greek and Hebrew; was maſter of the principles of arithmetic, hiſtory, geography, heraldry, and the ſcience of medals; and had read the beſt authors on almoſt every branch of literature. He died of a complication of diſorders, at Paris, in 1726.

CANDIDATE, a perſon who aſpires to ſome public office.

In the Roman commonwealth, they were obliged to wear a white gown during the two years of their ſoliciting a place. This garment, according to Plutarch, they wore without any other clothes, that the people might not ſuſpect they concealed money for purchaſing votes, and alſo that they might more eaſily ſhow to the people the ſcars of thoſe wounds they had received in fighting for the defence of the commonwealth. The candidates uſually declared their pretenſions a year before the time of election, which they ſpent in making intereſt and gaining friends. Various arts of popularity were practiſed for this purpoſe, and frequent circuits made round the city, and viſits and compliments to all ſorts of perſons, the proceſs of which was called *ambitus*. See Ambitus.

CANDIDATI MILITES, an order of ſoldiers, among the Romans, who ſerved as the emperor's bodyguards to defend him in battle. They were the talleſt and ſtrongeſt of the whole troops, and moſt proper to inſpire terror. They were called *candidati*, becauſe clothed in white, either that they might be more conſpicuous, or becauſe they were conſidered in the way of preferment.

CANDISH, a conſiderable province of Aſia, in the dominions of the Great Mogul, bounded by Chytor and Malva on the north, Orixa on the eaſt, Decan on the ſouth, and Guzarat on the weſt. It is populous and rich; and abounds in cotton, rice, and indigo. Brampore is the capital town.

Candiſh, Candle.

CANDLE, a ſmall taper of tallow, wax, or ſpermaceti; the wick of which is commonly of ſeveral threads of cotton, ſpun and twiſted together.

A tallow-candle, to be good, muſt be half ſheep's and half bullock's tallow; for hog's tallow makes the candle gutter, and always gives an offenſive ſmell, with a thick black ſmoke. The wick ought to be pure, ſufficiently dry, and properly twiſted; otherwiſe the candle will emit an inconſtant vibratory flame, which is both prejudicial to the eyes and inſufficient for the diſtinct illumination of objects.

There are two ſorts of tallow-candles; the one dipped, the other moulded: the former are the common candles; the others are the invention of the ſieur le Brege at Paris.

As to the method of making candles in general: After the tallow has been weighed, and mixed in the due proportions, it is cut into very ſmall pieces, that it may melt the ſooner; for the tallow in lumps, as it comes from the butchers, would be in danger of burning or turning black, if it were left too long over the fire. Being perfectly melted and ſkimmed, they pour a certain quantity of water into it, proportionable to the quantity of tallow. This ſerves to precipitate to the bottom of the veſſel the impurities of the tallow which may have eſcaped the ſkimmer. No water, however, muſt be thrown into the tallow deſigned for the three firſt dips; becauſe the wick, being ſtill quite dry, would imbibe the water, which makes the candles crackle in burning, and renders them of bad uſe. The tallow, thus melted, is poured into a tub, through a coarſe ſieve of horſe-hair, to purify it ſtill more, and may be uſed after having ſtood three hours. It will continue fit for uſe 24 hours in ſummer and 15 in winter. The wicks are made of ſpun cotton, which the tallow-chandlers buy in ſkains, and which they wind up into bottoms or clues. Whence they are cut out, with an inſtrument contrived on purpoſe, into pieces of the length of the candle required; then put on the ſticks or broaches, or elſe placed in the moulds, as the candles are intended to be either dipped or moulded.

Wax-candles are made of a cotton or flaxen wick, ſlightly twiſted, and covered with white or yellow wax. Of theſe, there are ſeveral kinds: ſome of a conical figure, uſed to illuminate churches, and in proceſſions, funeral ceremonies, &c. (ſee Taper); others of a cylindrical form, uſed on ordinary occaſions. The firſt are either made with a ladle or the hand. 1. To make wax-candles with the ladle. The wicks being prepared, a dozen of them are tied by the neck, at equal diſtances, round an iron circle, ſuſpended over a large baſon of copper tinned, and full of melted wax: a large ladle full of this wax is poured gently on the tops of the wicks one after another, and this operation continued till the candle arrive at its deſtined bigneſs; with this precaution, that the three firſt ladles be poured on at the top of the wick, the fourth at the height of ¼, the fifth at ⅓, and the ſixth at ½, in order to give the candle its pyramidal form. Then the candles are taken down, kept warm, and

Candle and rolled and ſmoothed upon a walnut-tree table, with a long ſquare inſtrument of box, ſmooth at the bottom. 2. As to the manner of making wax-candles by the hand, they begin to ſoften the wax, by working it ſeveral times in hot water, contained in a narrow but deep caldron. A piece of the wax is then taken out, and diſpoſed by little and little around the wick, which is hung on a hook in the wall, by the extremity oppoſite to the neck; ſo that they begin with the big end, diminiſhing ſtill as they deſcend towards the neck. In other reſpects the method is nearly the ſame as in the former caſe. However, it muſt be obſerved, that, in the former caſe, water is always uſed to moiſten the ſeveral inſtruments, to prevent the wax from ſticking; and in the latter, oil of olives, or lard, for the hands, &c. The cylindrical wax-candles are either made as the former, with a ladle, or drawn. Wax-candles drawn, are ſo called, becauſe actually drawn in the manner of wire, by means of two large rollers of wood, turned by a handle, which, turning backwards and forwards ſeveral times, paſs the wick through melted wax contained in a braſs baſon, and at the ſame time through the holes of an inſtrument like that uſed for drawing wire faſtened at one ſide of the baſon.

If any chandlers mix with their wares any thing deceitfully, &c. the candles ſhall be forfeited. Stat. 23 Eliz. and a tax or duty is granted on candles, by 8 and 9 Anne, cap. 6. made for ſale, of one penny a pound, beſides the duty upon tallow, by 8 Anne, cap. 9. And by 24 Geo. III. cap. 11. an additional duty of an halfpenny a pound: and by the ſame an additional duty of an halfpenny a pound is laid upon all candles imported (except thoſe of wax and ſpermaceti, for which ſee *Wax-Candles*), ſubject alſo to the two additional 5 per cents. impoſed by 19 and 22 Geo. III. beſides the duty of 2¼d. formerly impoſed by 2 W. ſeſſ. 2. cap. 4. 8 Anne, cap. 9. and 9 Anne, cap. 6. And every maker of candles, other than wax candles, for ſale, ſhall annually take out a licence at L. 1. The maker of candles ſhall, in four weeks within the bills, and elſewhere in ſix weeks, after entry, clear off the duties on pain of double duty: nor ſell any after default in payment on pain of double value; 8 Anne, cap. 9. The makers of candles are not to uſe melting houſes, without making a true entry, on pain of L. 100, and to give notice of making candles to the excife officer for the duties; and of the number, &c. or ſhall forfeit L. 50, ſtat. 11. Geo. I. cap. 30. See alſo 23 Geo. II. cap. 21. and 26 Geo. II. cap. 32. No maker of candles for ſale ſhall begin to make candles, without notice firſt given to the officer, unleſs from September 29th to March 25th yearly, between ſeven in the morning and five in the evening, and from March 25th to September 29th, between five in the morning and ſeven in the evening, on pain of L. 10, 10 Anne, cap. 26. The penalty of obſtructing the officer is L. 20, and of removing candles before they are ſurveyed L. 20, 8 Anne, cap. 9. The penalty of privately making candles is the forfeiture of the ſame and utenſils, and L. 100, 5 Geo. III. cap. 43. And the penalty of mingling weighed with unweighed candles, of removing them before they are weighed, or of concealing them, is the forfeiture of L. 100, 11 Geo. cap. 30. Candles, for which the duty hath been paid, may be exported, and the duty drawn back; but no draw-back ſhall be allowed on the exportation of any foreign candles imported. 8 Ann. cap. 9. 23 Geo. II. cap. 21. Candle.

The Roman candles were at firſt little ſtrings dipt in piteh, or ſurrounded with wax; though afterwards they made them of the papyrus, covered likewiſe with wax; and ſometimes alſo of ruſhes, by ſtripping off the outer rind, and only retaining the pith.—For religious offices, wax candles were uſed; for vulgar uſes, thoſe of tallow. Lord Bacon propoſes candles of divers compoſitions and ingredients, as alſo of different ſorts of wicks; with experiments of the degrees of duration, and light of each. Good houſewives bury their candles in flour or bran, which it is ſaid increaſes their laſting almoſt half.

Experiments to determine the real and comparative value of burning CANDLES *of different ſorts and ſizes.*

	Numb. of candles in one pound	Weight of one candle.	The time one candle laſted	The time that one pound will laſt.	The expence in 12 hours when candles are at 6*d* per dozen, which alſo ſhows the proportion of the expence at any price per dozen.
		Oz. Dr.	Hr. Min	Hr. Min.	Farthings and 100th parts.
Small wick.	18½	0 14	3 15	59 26	4.85
Large wick.	19	0 13½	2 40	50 34	5.70
	16½	0 15½	2 40	44 2	6.54
	12	1 5½	3 27	41 24	6.96
*	10½	1 8	3 36	38 24	7.50
*	7¼	2 1	4 9	32 12	8.94
*	8	2 0	4 15	34 0	8.47
	5¼	2 13	5 19	30 15	9.53
	Mould-candles				Mould-candl. at 5*s* per doz.
	5⅞	2 12	7 20	42 39	7.87
	4	4 0	9 3	36 20	9.28

N. B. The time that one candle laſted was taken from an average of ſeveral trials in each ſize.

It is obſervable, in optics, that the flame of two candles joined, give a much ſtronger light than both of them ſeparate. The obſervation was ſuggeſted by Dr Franklin. Probably the union of the two flames produces a greater degree of heat, whereby the vapour is attenuated, and the particles of which light conſiſts more copiouſly emitted.

Lighting a CANDLE *by a ſmall ſpark of electricity.* This method, which is an invention of Dr Ingenhouſz, is recorded in the Phil. Tranſ. vol. 68. It is done by a ſmall phial, having eight or ten inches of metallic coating, or even leſs, charged with electricity, which may be done at any time of the night by a perſon who has an electric machine in his room. "When I have occaſion to light a candle," ſays he, "I charge a ſmall coated phial, whoſe knob is bent outwards, ſo as to hang a little over the body of the phial; then I wrap ſome looſe cotton over the extremity of a long braſs pin or a wire, ſo as to ſtick moderately faſt to its ſubſtance. I next roll this extremity of the pin wrapped up with cotton in ſome fine powder of reſin, (which I always keep in readineſs upon the table for this purpoſe, either in a wide-mouthed phial or in a

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Candle, Candleberry.

loose paper); this being done, I apply the extremity of the pin or wire to the external coating of the charged phial, and bring as quickly as possible the other extremity wrapped round with cotton to the knob: the powder of resin takes fire, and communicates its flame to the cotton, and both together burn long enough to light a candle. As I do not want more than half a minute to light my candle in this way, I find it a readier method than kindling it by a flint and steel, or calling a servant. I have found, that powder of white or yellow resin lights easier than that of brown. The *farina lycopodii* may be used for the same purpose: but it is not so good as the powder of resin, because it does not take fire quite so readily, requiring a stronger spark not to miss: besides, it is soon burnt away. By dipping the cotton in oil of turpentine, the same effect may be as readily obtained, if you take a jar somewhat greater in size. This oil will inflame so much the readier if you strew a few fine particles of brass upon it. The pin dust is the best for this purpose; but as this oil is scattered about by the explosion, and when kindled fills the room with much more smoke than the powder of resin, I prefer the last."

Candle-Bombs, a name given to small glass bubbles, having a neck about an inch long, with a very slender bore, by means of which a small quantity of water is introduced into them, and the orifice afterwards closed up. This stalk being put through the wick of a burning candle, the vicinity of the flame soon rarifies the water into steam, by the elasticity of which the glass is broken with a loud crack.

Candle is also a term of medicine, and is reckoned among the instruments of surgery. Thus the *candela fumalis*, or the *candela pro fistula odorata*, is a mass of an oblong form, consisting of odoriferous powders, mixed up with a third or more of the charcoal of willow or lime tree, and reduced to a proper consistence with a mucilage of gum tragacanth, labdanum, or turpentine. It is intended to excite a grateful smell without any flame, to correct the air, to fortify the brain, and to excite the spirits.

Medicated Candle, the same with Bougie.

Candle. Sale or auction by inch of candle, is when a small piece of candle, being lighted, the bystanders are allowed to bid for the merchandize that is selling; but the moment the candle is out, the commodity is adjudged to the last bidder.

There is also an excommunication by inch of candle; when the sinner is allowed to come to repentance while a candle continues burning; but after it is consumed, he remains excommunicated to all intents and purposes.

Rush-Candles, used in different parts of England, are made of the pith of a sort of rushes, peeled or stripped of the skin, except on one side, and dipped in melted grease.

Candle-Wood, slips of pine about the thickness of a finger, used in New England and other colonies to burn instead of candles, giving a very good light. The French inhabitants of Tortuga use slips of yellow santal-wood for the same purpose, and under the same denomination, which yields a clear flame though of a green colour.

CANDLEBERRY TREE, in botany, the English name of the Myrica.

CANDLEMAS, a feast of the church held on the second day of February, in honour of the purification of the Virgin Mary. It is borrowed from the practice of the ancient Christians, who on that day used abundance of lights both in their churches and processions, in memory, as is supposed, of our Saviour's being on that day declared by Simon "to be a light to lighten the Gentiles." In imitation of this custom, the Roman-catholics on this day consecrate all the tapers and candles which they use in their churches during the whole year. At Rome, the Pope performs that ceremony himself; and distributes wax-candles to the cardinals and others, who carry them in procession through the great hall of the Pope's palace. This ceremony was prohibited in England by an order of council in 1548.

Candlemas, (2d Feb.) is made one of the four terms of the year for paying and receiving rents or borrowed money, &c.—In the courts of law, Candlemas terms begin 15th January, and ends 3d February.

Candlemas || Candy.

CANDLESTICK, an instrument to hold a candle, made in different forms, and of all sorts of matter.

The golden candlestick was one of the sacred utensils made by Moses to be placed in the Jewish tabernacle. It was made of hammered gold, a talent in weight. It consisted of seven branches supported by a base or foot. These branches were adorned at equal distances with six flowers like lilies, and with as many bowls and knobs placed alternately. Upon the stock and six branches of the candlestick were the golden lamps, which were immoveable, wherein were put oil and cotton.

These seven lamps were lighted every evening, and extinguished every morning. The lamps had their tongs or snuffers to draw the cotton in or out, and dishes underneath them to receive the sparks or droppings of the oil. This candlestick was placed in the antichamber of the sanctuary on the south side, and served to illuminate the altar of perfume and the tabernacle of the shew-bread. When Solomon had built the temple of the Lord, he placed in it ten golden candlesticks of the same form as that described by Moses, five on the north and five on the south side of the holy place: But after the Babylonish captivity, the golden candlestick was again placed in the temple, as it had been before in the tabernacle by Moses. This sacred utensil, upon the destruction of the temple by the Romans, was lodged in the temple of peace built by Vespasian; and the representation of it is still to be seen on the triumphal arch at the foot of mount Palatine, on which Vespasian's triumph is delineated.

CANDY, a large kingdom of Asia, in the island of Ceylon. It contains about a quarter of the island; and as it is encompassed with high mountains, and covered with thick forests, through which the roads and paths are narrow and difficult, the king has them guarded to prevent his subjects from going into other countries. It is full of hills, from whence rivulets proceed which are full of fish; but as they run among the rocks, they are not fit for boats: however, the inhabitants are very dexterous in turning them to water their land, which is fruitful in rice, pulse, and hemp. The king is absolute, and his subjects are idolaters. The capital town is of the same name.

Candy, a town of Asia, and capital of a kingdom of

Candy of Canes.

of the ſame name, in the iſland of Ceylon. It has been often burnt by the Portugueſe, when they were maſters of theſe coaſts. The houſes are very poor, low, and badly furniſhed. E. Long. 79. 12. N. Lat. 7. 35.

Candy, or *Sugar-Candy*, a preparation of ſugar made by melting and cryſtallizing it ſix or ſeven times over, to render it hard or tranſparent. It is of three kinds, white, yellow, and red. The white comes from the loaf-ſugar, the yellow from the caſſonado, and the red from the muſcavado.

CANDYING, the act of preſerving ſimples in ſubſtance, by boiling them in ſugar. The performance of this originally belonged to the apothecaries, but is now become a part of the buſineſs of the confectioner.

CANE, in botany. See Arundo and Calamus.

Cane, denotes alſo a walking ſtick. It is cuſtomary to adorn it with a head of gold, ſilver, agate, &c. Some are without knots, and very ſmooth and even; others are full of knots abouts two inches diſtance from one another. Theſe laſt have very little elaſticity, and will not bend ſo well as the others.

Canes of Bengal are the moſt beautiful which the Europeans bring into Europe. Some of them are ſo fine, that people work them into bowls or veſſels, which being varniſhed over in the inſide, with black or yellow lacca, will hold liquors as well as glaſs or China ware does; and the Indians uſe them for that purpoſe.

Cane is alſo the name of a long meaſure, which differs according to the ſeveral countries where it is uſed. At Naples the cane is equal to 7 feet 3½ inches Engliſh meaſure: the cane of Tholouſe and the Upper Languedoc, is equal to the varre of Arragon, and contains five feet 8½ inches; at Montpellier, Provence, Dauphine, and the Lower Languedoc, to ſix Engliſh feet 5½ inches.

CANEA, a conſiderable town of the iſland of Candia, where a baſhaw reſides. It was built by the Venetians, and occupies part of the ſite of the ancient Cydonia. It is but about two miles in compaſs; encircled on the land ſide with a ſingle wall, extremely thick; and defended by a broad and deep ditch, cut through a bed of rock, which extends all around the wall. By cutting it ſtill deeper, they might cauſe the ſea to flow round its ramparts; on which they have raiſed high platforms, that their great guns might command a wider extent of the adjacent plain. The city has only one gate, the gate of Retimo, protected by an half-moon battery, which is the only exterior fort. The ſide which faces the ſea is the beſt fortified. On the left of the harbour are four batteries, riſing one above another, and planted with a number of large cannons of caſt metal, marked with the arms of Venice. The firſt of theſe batteries ſtands cloſe on the brink of the ſea. The right ſide of the harbour is defended only by a ſtrong wall, extending along a chain of pointed rocks which it is dangerous for ſhips to approach. At the extremity of this wall, there is an old caſtle, falling into ruins. Beneath that caſtle, the Venetians had immenſe arſenals, vaulted with ſtone. Each of theſe vaults was of ſufficient length, breadth, and height, to ſerve as a work-ſhop for building a ſhip of the line. The ground is ſloping, and the outermoſt part of theſe capacious arſenals is on a level with the ſea; ſo that it was very eaſy to launch the ſhips built there into the water. The Turks are ſuffering that magnificent work to fall into ruins. Canella.

The city of Canea is laid out on a fine plan. The ſtreets are large and ſtraight; and the ſquares adorned with fountains. There are no remarkable buildings in it. Moſt of the houſes are flat-roofed, and have only one ſtory. Thoſe contiguous to the harbour are adorned with galleries, from which you enjoy a delightful proſpect. From the windows you diſcover the large bay formed between Cape Spada and Cape Melec, and all the ſhips that are entering in or paſſing out. The harbour, at preſent, receives ſhips of 200 tons burden; and it might be enlarged ſo as to admit the largeſt frigates. Its mouth is expoſed to the violence of the north winds, which ſometimes ſwell the billows above the ramparts. But, as it is narrow, and the bottom is good, ſhips that are well moored run no danger. At the time when Tournefort viſited Crete, Canea did not contain more than five or ſix thouſand inhabitants. But, at preſent, when the gates of Gira-Petra, Candia, and Retimo are choaked up, the merchants have retired to Canea; and it is reckoned to contain 16,000 ſouls. The environs of the town are admirable; being adorned with foreſts of olive-trees mixed with fields, vineyards, gardens, and brooks bordered with myrtle-trees and laurel-roſes. The chief revenue of this town conſiſts in oil-olive. E. Long. 24. 15. N. Lat. 35. 28.

CANELLA, in botany: A genus of the monogynia order belonging to the dodecandria claſs of plants; and in the natural method ranking under the 12th order, *Holoraceæ*. The calyx is three lobed; the petals are five; the antheræ 16, growing to an urceolated or bladder-ſhaped nectarium; and the fruit is a trilocular berry, with two ſeeds. There is but one ſpecies, the alba; which grows uſually about 20 feet high, and eight or ten inches in thickneſs, in the thick woods of moſt of the Bahama iſlands. The leaves are narrow at the ſtalk, growing wider at their ends, which are broad and rounding, having a middle rib only; they are very ſmooth, and of a light ſhining green. In May and June the flowers, which are pentapetalous, come forth in cluſters at the ends of the branches: they are red, and very fragrant, and are ſucceeded by round berries, of the ſize of large peas, green, and when ripe (which is in February) purple, containing two ſhining black ſeeds, flat on one ſide, otherwiſe not unlike in ſhape to a kidney bean: theſe ſeeds in the berry are coveloped in a ſlimy mucilage. The whole plant is very aromatic, the bark particularly, being more uſed in diſtilling, and in greater eſteem, in the more northern parts of the world than in Britain. Pl. CXVI.

The bark is the canella alba of the ſhops. It is brought to us rolled up into long quills, thicker than cinnamon, and both outwardly and inwardly of a whitiſh colour, lightly inclining to yellow. Infuſions of it in water are of a yellowiſh colour, and ſmell of the canella; but they are rather bitter than aromatic. Tinctures in rectified ſpirit have the warmth of the bark, but little of its ſmell. Proof-ſpirit diſſolves the aromatic as well as the bitter matter of the canella, and is therefore the beſt menſtruum.

The canella is the interior bark freed from an outward thin

Canella alba.

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Canelle ‖ Canes.

thin rough one, and dried in the ſhade. The ſhops diſtinguiſh two ſorts of canella, differing from each other in the length and thickneſs of the quills: they are both the bark of the ſame tree; the thicker being taken from the trunk, and the thinner from the branches. This bark is a warm pungent aromatic, though not of the moſt agreeable kind: nor are any of the preparations of it very grateful.

Canella alba is often employed where a warm ſtimulant to the ſtomach is neceſſary, and as a corrigent of other articles. It is now, however, little uſed in compoſition by the London college; the only official formula which it enters being the pulvis aloeticus: but with the Edinburgh college it is an ingredient in the tinctura amara, vinum amarum, vinum rhei, &c. It is uſeful as covering the taſte of ſome other articles.—This bark has been confounded with that called Winter's bark, which belongs to a very different tree. See Wintera.

CANELLE, or Cane-Land, a large country in the iſland of Ceylon, called formerly the *kingdom of Cota*. It contains a great number of cantons, the principal of which are occupied by the Dutch. The chief riches of this country conſiſt in cinnamon, of which there are large foreſts. There are five towns on the coaſt, ſome forts, and a great number of harbours. The reſt of the country is inhabited by the natives; and there are ſeveral rich mines, from whence they get rubies, ſapphires, topazes, cats-eyes, and ſeveral other precious ſtones.

CANEPHORÆ, in Grecian antiquity, virgins who, when they became marriageable, preſented certain baſkets full of little curioſities to Diana, in order to get leave to depart out of her train, and change their ſtate of life.

CANEPHORIA, in Grecian antiquity, a ceremony which made part of a feaſt, celebrated by the Athenian virgins on the eve of their marriage-day. At Athens the canephoria conſiſted in this; that the maid, conducted by her father and mother, went to the temple of Minerva, carrying with her a baſket full of preſents to engage the goddeſs to make the marriage-ſtate happy; or, as the ſcholiaſt of Theocritus has it, the baſket was intended as a kind of honourable amends made to that goddeſs, the protectrix of virginity, for abandoning her party; or as a ceremony to appeaſe her wrath. Suidas calls it a feſtival in honour of Diana.

Canephoria, is alſo the name of a feſtival in honour of Bacchus, celebrated particularly by the Athenians, on which the young maids carried golden baſkets full of fruit, which baſkets were covered, to conceal the myſtery from the uninitiated.

CANES, in Egypt and other eaſtern countries, a poor ſort of buildings for the reception of ſtrangers and travellers. People are accommodated in theſe with a room at a ſmall price, but with no other neceſſaries; ſo that, excepting the room, there are no greater accommodations in theſe houſes than in the deſarts, only that there is a market near.

Canes Venatici, in aſtronomy, the grey-hounds, two new conſtellations, firſt eſtabliſhed by Hevelius, between the tail of the Great Bear and Bootes's arms, above the Coma Berenices. The firſt is called *aſterion*, being that next the Bear's tail; the other *chara*. They comprehend 23 ſtars, of which Tycho only obſerved two. The longitudes and latitudes of each are given by Hevelius. In the Britiſh Catalogue they are 25.

Caneto ‖ Cangiagio.

CANETO, a ſtrong town of Italy in the duchy of Mantua, ſeated on the river Oglio, which was taken by the Imperialiſts in 1701, by the French in 1702, afterwards by the Imperialiſts, and then by the French in 1705. E. Long. 10. 45. N. Lat. 40. 55.

CANGA, in the Chineſe affairs, a wooden clog borne on the neck, by way of puniſhment for divers offences. The canga is compoſed of two pieces of wood notched, to receive the criminal's neck; the load lies on his ſhoulders, and is more or leſs heavy according to the quality of his offence. Some cangas weigh 200lb; the generality from 50 to 60. The Mandarins condemn to the puniſhment of the canga. Sentence of death is ſometimes changed for this kind of puniſhment.

CANGE (Charles du Freſne ſieur du), one of the moſt learned writers of his time, was born at Amiens in 1601, and ſtudied at the Jeſuits college in that city. Afterwards he applied himſelf to the ſtudy of the law at Orleans, and gained great reputation by his works; among which are, 1. The hiſtory of the empire of Conſtantinople under the French emperors. 2 John Cinnamus's ſix books of the hiſtory of the affairs of John and Manuel Comnenus, in Greek and Latin, with hiſtorical and philological notes. 3. *Gloſſarium ad Scriptores mediæ & infimæ Latinitatis.*

CANGI, Ceangi, or *Cangani*, anciently a people of Britain, concerning whoſe ſituation antiquaries have been much perplexed. They are all the ſame people. Cambden diſcovered ſome traces of them in many different and diſtant places, as in Somerſetſhire, Wales, Derbyſhire, and Cheſhire; and he might have found as plain veſtiges of them in Devonſhire, Dorſetſhire, Eſſex, Wiltſhire, &c. Mr Horſley and others are no leſs perplexed and undetermined in their opinions on this ſubject. But Mr Baxter ſeems to have diſcovered the true cauſe of all this perplexity, by obſerving that the Cangi or Ceangi were not a diſtinct nation ſeated in one particular place, but ſuch of the youth of many different nations as were employed in paſturage, in feeding the flocks and herds of their reſpective tribes. Almoſt all the ancient nations of Britain had their ceangi, their paſtoritia pubes, the keepers of their flocks and herds, who ranged about the country in great numbers, as they were invited by the ſeaſon and plenty of paſture for their cattle. This is the reaſon that veſtiges of their name are to be found in ſo many different parts of Britain; but chiefly in thoſe parts which are moſt fit for paſturage. Theſe ceangi of the different Britiſh nations, naturally brave, and rendered ſtill more hardy by their way of life, were conſtantly armed for the protection of their flocks from wild beaſts; and theſe arms they occaſionally employed in the defence of their country and their liberty.

CANGIAGIO, or Cambiasi (Ludovico), one of the moſt eminent of the Genoeſe painters, was born in 1527. His works at Genoa are very numerous; and he was employed by the king of Spain to adorn part of the Eſcurial. It is remarked of him, that he was not only a moſt expeditious and rapid painter, but alſo that he worked equally well with both hands;

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Canicula || Canine.

and by that unuſual power he exe:uted more deſigns, and finiſhed more grand works with his own pencil, in a much ſhorter time, than moſt other artiſts could do with ſeveral aſſiſtants. He died in 1585.

In the royal collection at Paris, there is a Sleeping Cupid, as large as life, and likewiſe Judith with her attendant; which are painted by Cangiagio, and are an honour to that maſter. And in the Pembroke collection at Wilton, is a picture, reputed the work of Cangiagio, repreſenting Chriſt bearing his Croſs.

CANICULA, is a name proper to one of the ſtars of the conſtellation *canis major*, called alſo ſimply the dog-ſtar; by the Greeks *σειριος*, *ſirius* *. Canicula is the tenth in order in the Britannic catalogue; in Tycho's and Ptolemy's it is the ſecond. It is ſituated in the mouth of the conſtellation; and is of the firſt magnitude, being the largeſt and brighteſt of all the ſtars in the heavens. From the riſing of this ſtar not coſmically, or with the ſun, but heliacally, that is, its emerſion from the ſun's rays, which now happens about the 15th day of Auguſt, the ancients reckoned their *dies caniculares*, or dog days. The Egyptians and Ethiopians began their year at the riſing of the canicula, reckoning to its riſe again the next year, which is called the *annus canarius*, or canicular year. This year conſiſted ordinarily of 365 days, and every fourth year of 366, by which it was accommodated to the civil year. The reaſon of their choice of the canicula before the other ſtars to compute their time by, was not only the ſuperior brightneſs of that ſtar, but becauſe its heliacal riſing was in Egypt a time of ſingular note, as falling on the greateſt augmentation of the Nile, the reputed father of Egypt. Epheſtion adds, that from the aſpect and colour of canicula, the Egyptians drew prognoſtics concerning the riſe of the Nile; and, according to Florus, predicted the future ſtate of the year; ſo that the firſt riſing of this ſtar was annually obſerved with great attention.

* See *Sirius*.

CANICULUM, or Caniculus, in the Byzantine antiquities, a golden ſtandiſh or ink-veſſel, decorated with precious ſtones, wherein was kept the ſacred *encauſtum*, or red ink, wherewith the emperors ſigned their decrees, letters, &c. The word is by ſome derived from *canis*, or *caniculus*; alluding to the figure of a dog which it repreſented, or rather becauſe it was ſupported by the figures of dogs. The caniculum was under the care of a particular officer of ſtate.

CANINA, the north part of the ancient Epirus, a province of Greece, which now belongs to the Turks, and lies off the entrance of the gulph of Venice. The principal town is of the ſame name, and is ſeated on the ſea coaſt, at the foot of the mountains of Chimera. E. Long. 19. 25. N. Lat. 40. 55.

CANINANA, in zoology, the name of a ſpecies of ſerpent found in America, and eſteemed one of the leſs poiſonous kinds. It grows to about two feet long; and is green on the back, and yellow on the belly. It feeds on eggs and ſmall birds; the natives cut off the head and tail, and eat the body as a delicate diſh.

CANINE, whatever partakes of, or has any relation to, the nature of a dog.

Canine Appetite, amounts to much the ſame with Bulimy.

Canine Madneſs. See (the *Index* ſubjoined to) Medicine.

Canine Teeth, are two ſharp edged teeth in each jaw; one on each ſide, placed between the incitores and molares. Canine, Canis.

CANINI (John Angelo and Marc Anthony,) brothers and Romans, celebrated for their love of antiquities. John excelled in deſigns for engraving on ſtones, particularly heads; Marc engraved them. They were encouraged by Colbert to publiſh a ſucceſſion of heads of the heroes and great men of antiquity, deſigned from medals, antique ſtones, and other ancient remains; but John died at Rome ſoon after the work was begun: Marc Anthony, however, procured aſſiſtance, finiſhed and publiſhed it in Italian in 1669. The cuts of this edition were engraved by Canini, Picard, and Valet; and a curious explanation is given, which diſcovers the ſkill of the Canini's in hiſtory and mythology. The French edition of Amſterdam, 1731, is ſpurious.

CANIS, or Dog, in zoology, a genus of quadrupeds, belonging to the order of feræ. The characters of the dog are theſe: he has ſix fore-teeth in the upper jaw, thoſe in the ſides being longer than the intermediate ones, which are lobated; in the under jaw there are likewiſe ſix fore teeth, thoſe on the ſides being lobated. He has ſix grinders in the upper, and ſeven in the lower jaw. The teeth called *dog-teeth* are four, one on each ſide, both in the lower and upper jaw; they are ſharp-pointed, bent a little inward, and ſtand at a diſtance from any of the reſt.

There are 14 ſpecies of this genus, *viz.*

I. The Familiaris, or Domeſtic Dog, is diſtinguiſhed from the other ſpecies by having his tail bent to the left ſide; which mark is ſo ſingular, that perhaps the tail of no other quadruped is bent in this manner. Of this ſpecies there are a great number of varieties. Linnæus enumerates 11, and Buffon gives figures of no leſs than 27. The maſtiff is about the ſize of a wolf, with the ſides of the lips hanging down, and a full robuſt body. The large Daniſh dog differs only from the former in being fuller in the body, and generally of a larger ſize. The gre-hound is likewiſe the ſame with the maſtiff; but its make is more ſlender and delicate. Indeed the difference betwixt theſe three dogs, although perfectly diſtinguiſhable at firſt ſight, is not greater than that betwixt a Dutchman, a Frenchman, and an Italian. The ſhepherd's dog, the wolf-dog, and what is commonly called the *Siberian dog*, to which may be joined the Lapland dog, the Canada dog, and, in general, all thoſe which have ſtraight ears and a pointed ſnout, are all one kind, differing only in thickneſs, the roughneſs or ſmoothneſs of their ſkin, the length of their legs and tails. The hound or beagle, the terrier, the braque or harrier, and the ſpaniel, may be conſidered as the ſame kind: they have the ſame form and the ſame inſtincts; and differ only in the length of their legs, and ſize of their ears, which in each of them are long, ſoft, and pendulous. The bull-dog, the ſmall Daniſh dog, the Turkiſh dog, and the Iceland dog, may likewiſe be conſidered as the ſame kind, all the varieties in their appearance taking their riſe merely from climate. For inſtance, the Turkiſh dog, which has no hair, is nothing elſe but the ſmall Daniſh dog tranſported to a warm climate, which makes the hair fall off. A dog of any kind loſes its hair in very warm climates. But this is not the only change which ariſes from difference of climate. In ſome countries, the voice is changed; Domeſtic Dog. See Plates CXVII, CXVIII, CXIX, and CXX.

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Canis. ged; in others, dogs become altogether ſilent. In ſome climates they loſe the faculty of barking, and howl like wolves, or yelp like foxes. Warm climates even change their form and inſtincts: they turn ill-ſhaped, and their ears become ſtraight and pointed. It is only in temperate climes that dogs preſerve their natural courage, ardour, and ſagacity. Canis.

Dr Caius has left, among ſeveral other tracts relating to natural hiſtory, one written expreſsly on the ſpecies of Britiſh dogs; beſides a deſcription of the variety of dogs then exiſting in this country, he has added a ſyſtematic table of them, which we ſhall here inſert, and explain by a brief account of each kind.

Synopsis of British Dogs.

I. The moſt generous kinds.	Dogs of chace.	Hounds.	Terrier
			Harrier
			Blood-hound
			Gaze-hound
			Gre-hound
			Leviner, or Lyemmer
			Tumbler
	Fowlers.		Spaniel
			Setter
			Water-ſpaniel, or finder
	Lap Dogs.		Spaniel gentle, or comforter
II. Farm Dogs.			Shepherd's dog
			Maſtiff, or ban dog.
III. Mongrels.			Wappe
			Turnſpit
			Dancer.

1. a. The firſt variety is the *terrarius* or terrier, which takes its name from its ſubterraneous employ; being a ſmall kind of hound uſed to force the fox or other beaſts of prey out of their holes; and, in former times, rabbits out of their burrows into nets.

b. The *leverarius*, or harrier, is a ſpecies well known at preſent: it derives its name from its uſe, that of hunting the hare; but under this head may be placed the fox hound, which is only a ſtronger and fleeter variety, applied to a different chace.

c. The *ſanguinarius*, blood-hound, or *ſleut-hounde* of the Scots, was a dog of great uſe, as already noticed under the article *Blood-Hound*.

The next ſubdiviſion of this ſpecies of dogs comprehends thoſe that hunt by the eye; and whoſe ſucceſs depends either upon the quickneſs of their ſight, their ſwiftneſs, or their ſubtilty.

d. The *agaſeus*, or gaze-hound, was the firſt: it chaced indifferently the fox, hare, or buck. It would ſelect from the herd the fatteſt and faireſt deer; purſue it by the eye; and, if loſt for a time, recover it again by its ſingular diſtinguiſhing faculty; nay, ſhould the beaſt rejoin the herd, this dog would fix unerringly on the ſame. This ſpecies is now loſt, or at leaſt unknown to us.

e. The next kind is the *leporarius*, or gre-hound. Dr Caius informs us, that it takes its name *quod præcipui gradus ſit inter canes*, "the firſt in rank among dogs:" that it was formerly eſteemed ſo, appears from the foreſt-laws of king Canute, who enacted that no one under the degree of a gentleman ſhould preſume to keep a gre-hound; and ſtill more ſtrongly from an old Welſh ſaying which ſignifies, that "you may know a gentleman by his hawk, his horſe, and his gre-hound."

The variety called the *Highland gre-hound*, and now become very ſcarce, is of very great ſize, ſtrong, deep-cheſted, and covered with long rough hair. This kind was much eſteemed in former days, and uſed in great numbers by the powerful chieftains in their magnificent hunting-matches. It had as ſagacious noſtrils as the blood-hound, and was as fierce.

f. The third ſpecies is the *levinarius*, or lorarius; the leviner or lyemmer: the firſt name is derived from the lightneſs of the kind; the other from the old word *lyemme*, a thong; this ſpecies being uſed to be led in a thong, and ſlipped at the game. Our author ſays that this dog was a kind that hunted both by ſcent and ſight; and in the form of its body obſerved a medium between the hound and the gre-hound. This probably is the kind now known among us by the name of the *Iriſh gre-hound*, a dog now extremely ſcarce in that kingdom, the late king of Poland having procured from them as many as poſſible. They were of the kind called by Buffon *le grand Danois*, and probably imported there by the Danes who long poſſeſſed that kingdom. Their uſe ſeems originally to have been for the chace of wolves with which Ireland ſwarmed till the latter end of the laſt century. As ſoon as theſe animals were extirpated, the numbers of the dogs decreaſed; for, from that period, they were kept only for ſtate.

g. The *vertagus*, or tumbler, is a fourth ſpecies; which took its prey by mere ſubtilty, depending neither on the ſagacity of its noſe, nor its ſwiftneſs: if it came into a warren, it neither barked, nor ran on the rabbits; but by a ſeeming neglect of them, or attention to ſomething elſe, deceived the object till it got within reach, ſo as to take it by a ſudden ſpring. This dog was leſs than the hound, more ſcraggy, had prick't up ears, and by Dr Caius's deſcription ſeems to anſwer to the modern lurcher.

The third ſubdiviſion of the more generous dogs comprehends thoſe which were uſed in fowling.

h. Firſt, the *Hiſpaniolus*, or ſpaniel; from the name, it may be ſuppoſed that we were indebted to Spain for this breed. There were two varieties of this kind: the firſt uſed to ſpring the game, which are the ſame with our ſtarters. The other variety was uſed only for the net, and was called *index* or the ſetter; a kind well known at preſent. This kingdom has been long remarkable for producing dogs of this ſort, particular care having been taken to preſerve the breed in the utmoſt purity. They are ſtill diſtinguiſhed by the name of *Engliſh Spaniels*; ſo that, notwithſtanding the derivation of the name, it is probable they are natives of Great Britain.

i. The *aquaticus*, or finder, was another ſpecies uſed in fowling; was the ſame with our water-ſpaniel; and was uſed to find or recover the game that was ſhot.

k. The *Melitæus*, or *ſotor*, the ſpaniel gentle or comforter of Dr Caius (the modern lap-dog), was the laſt of this diviſion. The Malteſe little dogs were as much eſteemed by the fine ladies of paſt times as thoſe of Bologna are among the modern. Old Hollingſhed is ridiculouſly ſevere on the fair of his days for their

Canis. excefſive paſſion for theſe little animals; which is ſufficient to prove that it was, in his time*, a novelty.

* The reign of Queen Elizabeth.

2. The ſecond grand diviſion of dogs comprehends the *ruſtici*, or thoſe that were uſed in the country.

a. The firſt ſpecies is the *paſtoralis*, or ſhepherd's dog; which is the ſame that is uſed at preſent, either in guarding our flocks, or in driving herds of cattle. This kind is ſo well trained for theſe purpoſes as to attend to every part of the herd, be it ever ſo large; confine them to the road; and force in every ſtraggler, without doing it the leaſt injury.

b. The next is the *villaticus*, or *catenarius*; the maſtiff or ban dog; a ſpecies of great ſize and ſtrength, and a very loud barker. Caius tells us that three of theſe were reckoned a match for a bear; and four for a lion: but from an experiment made in the Tower of London, that noble quadruped was found an unequal match to only three. Two of the dogs were diſabled in the combat, but the third forced the lion to ſeek for ſafety by flight. The Engliſh bull-dog ſeems to belong to this ſpecies; and probably is the dog our author mentions under the title of *laniarius*. Great Britain was ſo noted for its maſtiffs, that the Roman emperors appointed an officer in this iſland under the name of *procurator ſynegii*, whoſe ſole buſineſs was to breed, and tranſmit from hence to the amphitheatre, ſuch as would prove equal to the combats of the place. Gratius ſpeaks in high terms of the excellency of the Britiſh dog.

Cynegeticon, lin. 175.

Atque ipſos libeat penetrare Britannos?
O quanta eſt merces, et quantum impendia ſupra!
Si non ad ſpecies, mentituroſque decores
Protinus: hac una eſt catulis jactura Britannis.
At magnum cum venit opus, promendaque virtus,
Et vocat extremo præceps diſcrimine Mavors,
Non tunc egregios tantum admirere Moloſſos.

If *Britain's* diſtant coaſt we dare explore,
How much beyond the coſt the valued ſtore?
If ſhape and beauty not alone we prize,
Which nature to the *Britiſh* hound denies:
But when the mighty toil the huntſman warms,
And all the foul is rous'd by fierce alarms,
When Mars calls furious to th' enſanguin'd field,
Even bold *Moloſſians* then to theſe muſt yield.

Strabo tells us that the maſtiffs of Britain were trained to war, and were uſed by the Gauls in their battles; and it is certain a well trained maſtiff might be of uſe in diſtreſſing ſuch half-armed and irregular combatants as the adverſaries of the Gauls ſeem generally to have been before the Romans conquered them.

3. The laſt diviſion is that of the *degeneres*, or curs.

a. The firſt of theſe was the *wappe*, a name derived from its note; its only uſe was to alarm the family by barking, if any perſon approached the houſe.

b. Of this claſs was the *verſator*, or turn-ſpit; and laſtly the *ſaltator* or dancing-dog; or ſuch as was taught variety of tricks, and carried about by idle people as a ſhew. Theſe *degeneres* were of no certain ſhape, being mongrels or mixtures of all kinds of dogs.

M. de Buffon has given a genealogical table of all the known dogs, in which he makes the *chien de berger*, or ſhepherd's dog, the origin of all, becauſe it is naturally the moſt ſenſible. This table or tree is intended not only to exhibit the different kinds of dogs, but to give an idea of their varieties as ariſing from a degeneration in particular climates, and from a commixture of the different races. It is conſtructed in the form of a geographical chart, preſerving as much as poſſible the poſition of the different climates to which each variety naturally belongs. The ſhepherd's dog, as already mentioned, is the root of the tree. This dog, when tranſported into Lapland, or other very cold climates, aſſumes an ugly appearance, and ſhrinks into a ſmaller ſize: but, in Ruſſia, Iceland, and Siberia, where the climate is leſs rigorous, and the people a little more advanced in civilization, he ſeems to be better accompliſhed. Theſe changes are occaſioned ſolely by the influence of thoſe climates, which produce no great alteration in the figure of this dog; for, in each of theſe climates, his ears are erect, his hair thick and long, his aſpect wild, and he barks leſs frequently, and in a different manner, than in more favourable climates, where he acquires a finer poliſh. The Iceland dog is the only one that has not his ears entirely erect; for their extremities are a little inclined; and Iceland, of all the northern regions, has been longeſt inhabited by half civilized men. Canis. See Plate CXXXI.

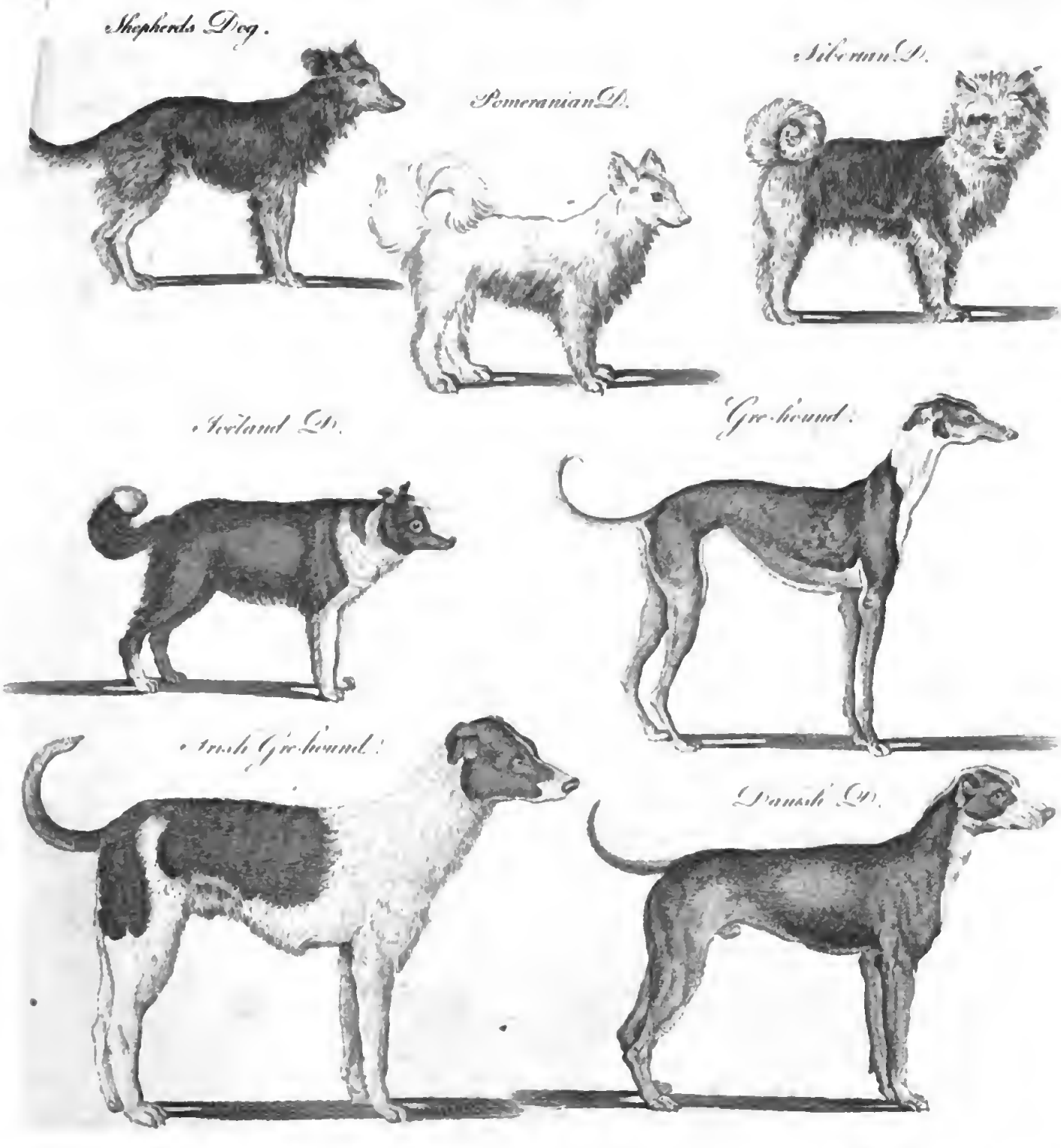
The ſame ſhepherd's dog, when brought into temperate climates, and among a people perfectly civilized, as Britain, France, Germany, would, by the mere influence of the climate, loſe his ſavage aſpect, his erect ears, his rude, thick, long hair, and aſſume the figure of a bull dog, the hound, and the Iriſh gre-hound. The bull-dog and Iriſh grey-hound have their ears ſtill partly erect, and very much reſemble, both in their manners and ſanguinary temper, the dog from which they derive their origin. The hound is fartheſt removed from the ſhepherd's dog; for his ears are long and entirely pendulous. The gentleneſs, docility, and even the timidity of the hound, are proofs of his great degeneration, or rather of the great perfection he has acquired by the long and careful education beſtowed on him by man.

The hound, the harrier, and the terrier, conſtitute but one race; for, it has been remarked, that in the ſame litter, hounds, harriers, and terriers, have been brought forth, though the female hound had been covered by only one of theſe three dogs. I have joined the common harrier to the Dalmatian dog, or harrier of Bengal, becauſe they differ only in having more or fewer ſpots on their coat. I have alſo linked the turn-ſpit, or terrier with crooked legs, with the common terrier; becauſe the defect in the legs of the former has originally proceeded from a diſeaſe ſimilar to the rickets, with which ſome individuals had been affected, and tranſmitted the deformity to their deſcendants.

The hound, when tranſported into Spain and Barbary, where all animals have fine, long, buſhy hair, would be converted into the ſpaniel and water-dog. The great and ſmall ſpaniel, which differ only in ſize, when brought into Britain, have changed their white colour into black, and become, by the influence of climate, the great and little King Charles's dog: To theſe may be joined the pyrame, which is only a King Charles's dog, black like the others, but marked with red on the four legs, and a ſpot of the ſame colour above each eye, and on the muzzle.

The Iriſh gre-hound, tranſported to the north, is become the great Daniſh dog; and, when carried to the ſouth, was converted into the common gre-hound.

The



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Canis. The largeſt gre-hounds come from the Levant, thoſe of a ſmaller ſize from Italy; and thoſe Italian gre-hounds, carried into Britain, have been ſtill farther diminiſhed.

The great Daniſh dog, tranſported into Ireland, the Ukraine, Tartary, Epirus, and Albania, has been changed into the Iriſh gre-hound, which is the largeſt of all dogs.

The bull-dog, tranſported from Britain to Denmark, is become the little Daniſh dog; and the latter, brought into warm climates, has been converted into the Turkiſh dog. All theſe races, with their varieties, have been produced by the influence of climate, joined to the effects of ſhelter, food, and education. The other dogs are not pure races, but have proceeded from commixtures of thoſe already deſcribed. I have marked, in the table, by dotted lines, the double origin of theſe mongrels.

The gre-hound and Iriſh gre-hound have produced the mongrel gre-hound, called alſo the gre-hound with wolf's hair. The muzzle of this mongrel is leſs pointed than that of the true gre-hound, which is very rare in France.

The great Daniſh dog and the large ſpaniel have produced the Calabrian dog, which is a beautiful animal, with long buſhy hair, and larger than the Iriſh gre-hound.

The ſpaniel and terrier have produced the dog called *burgos*.

From the ſpaniel and little Daniſh dog has proceeded the lion-dog, which is now very rare.

The dogs with long, fine, criſped hair, called the *bouffe dogs*, and which are larger than the water-dog, proceed from the ſpaniel and water-dog.

The little water-dog comes from the water-dog and ſmall ſpaniel.

From the bull-dog and Iriſh gre-hound proceeds a mongrel called the *maſtiff*, which is larger than the bull-dog, and reſembles the latter more than the Iriſh gre-hound.

The pug-dog proceeds from the bull-dog and ſmall Daniſh dog.

All theſe dogs are ſimple mongrels, and are produced by the commixture of two pure races. But there are other dogs, called *double mongrels*, becauſe they proceed from the junction of a pure race with a mongrel. The baſtard pug-dog is a double mongrel from a mixture of the pug-dog with the little Daniſh dog. The Alicant dog is alſo a double mongrel, proceeding from the pug-dog and ſmall ſpaniel. The Malteſe, or lap-dog, is a double mongrel, produced between the ſmall ſpaniel and little water-dog.

Laſtly, there are dogs which may be called *triple mongrels*, becauſe they are produced by two mixed races. Of this kind are the Artois and Iſlois dogs, which are produced by the pug-dog and the baſtard pug-dog; to which may be added the dogs called *ſtreet-dogs*, which reſemble no particular kind, becauſe they proceed from races which have previouſly been ſeveral times mixed.

The following is a ſyſtematic catalogue of all the known dogs, as arranged by Mr Pennant in his Hiſtory of Quadrupeds:

1. Shepherd's dog (*Canis domeſticus*, Lin. *Le Chien de Berger*, Buff.); ſo called, becauſe it becomes without diſcipline almoſt inſtantly the guardian of the flocks, keeps them within bounds, reduces the ſtragglers to their proper limits, and defends them from the attacks of the wolves. We have this variety in England; but it is ſmall and weak. It is the paſtoralis of Caius above mentioned. Thoſe of France and the Alps are very large and ſtrong; ſharp-noſed; erect and ſharp eared; very hairy, eſpecially about the neck; and have their tails turned up or curled: and by accident their faces often ſhow the marks of their combats with the wolf. Canis.

Its varieties or neareſt allies are: *a*, Pomeranian dog. *b*, Siberian dog. The other varieties in the inland parts of the empire and Siberia noticed by Buffon, are chiefly from the ſhepherd's dog: and there is a high-limbed taper-bodied kind, the common dog of the Calmuc and independent Tartars, excellent for the chace and all uſes.

2. The hound, or dog with long, ſmooth, and pendulous ears. This is the ſame with the blood-hound in Caius's Table, (*le Chien courant*, Buff. *Canis ſagax*, Lin.). It is the head of the other kinds with ſmooth and hanging ears: *a*, Harrier; *b*, Dalmatian, vulgarly the Daniſh, a beautiful ſpotted dog; *c*, Turnſpit; *d*, Water-dog, great and ſmall.

From this ſtock branches out another race with pendent ears, covered with long hairs, and leſs in ſize; which form,

3. The Spaniel; (*Canis avicularius*, Lin.) Thoſe of this kind vary in ſize from the ſetting dog to the ſpringing ſpaniels, and ſome of the little lap-dogs; as,

a, King Charles's. Charles II. never went out except attended by numbers of this kind. *b*, *Le pyrame* of Buffon. For this ſort, though common in Britain, there is no Engliſh name. It is black, marked on the legs with red, and having a ſpot of the ſame colour above each eye. *c*, The Shock-dog.

4. Dogs with ſhort pendent ears, and long legs and bodies; as,

a, Iriſh gre-hound; (*le Matin*, Buff.): a variety once very frequent in Ireland, and uſed in the chace of the wolf; now very ſcarce. Probably the ſame with the leviner in Caius's table, deſcribed above.

b, Common gre-hound, deſcribed above under Caius's table; (*le Levrier et Sebreher*, Buff. *Canis graius*, Lin.) Its varieties are, 1. *Italian* gre-hound, ſmall and ſmooth: 2. *Oriental* gre-hound, tall, ſlender, with very pendulous ears, and very long hairs on the tail hanging down a great length.

c, Daniſh dog, of a ſtronger make than a gre-hound: the largeſt of dogs; (*le Grand Danois*, Buff.) Mr Pennant thinks it probable, that of this kind were the dogs of Epirus, mentioned by Ariſtotle, lib. iii. c. 21; or thoſe of Albania, the modern Schirwan or Eaſt Georgia, ſo beautifully deſcribed by Pliny, lib. viii. c. 40. Perhaps to this head may be referred the vaſt dogs of Thibet, ſaid by Marco Paolo to be as big as aſſes, and uſed in that country to take wild beaſts, and eſpecially the wild oxen called *Beyamini*.

d, Maſtiff, (*le Dogue de forte race*, Buff. *Canis molloſſus*, Lin.): Very ſtrong and thick made; the head large; the lips great, and hanging down on each ſide; a fine and noble countenance; grows to a great ſize: A Britiſh kind. See above under Dr Caius's table.

5. Dogs with ſhort pendent ears, ſhort compact bodies,

Canis. bodies, ſhort noſes, and generally ſhort legs. *a*. Bull-dog (*le Dogue*, Buff.), with a ſhort noſe, and under jaw longer than the upper: a cruel and very fierce kind, often biting before it barks; peculiar to England; the breed ſcarcer than it has been ſince the barbarous cuſtom of bull-baiting has declined. *b*, Pug-dog, (*le Doguin*, Buff.): A ſmall ſpecies; an innocent reſemblance of the laſt. *c*, Baſtard pug, (*le Roquet*, Buff.) *d*, Naked, (*le chien Turc*, Buff.): A degenerate ſpecies with naked bodies; having loſt their hair by the heat of climate.

Dogs are found in the Society iſlands, New Zealand, and the Low iſlands; there are alſo a few in New Holland. Of theſe are two varieties:

a, Reſembling the ſharp-noſed pricked-ear ſhepherd's cur. Thoſe of New Zeland are of the largeſt ſort. In the Society iſlands they are the common food, and are fattened with vegetables, which the natives cram down their throats as we ſerve turkeys when they will voluntarily eat no more. They are killed by ſtrangling, and the extravaſated blood is preſerved in cocoa-nut ſhells, and baked for the table. They grow very fat, and are allowed, even by Europeans who have got over their prejudices, to be very ſweet and palatable. But the taſte for the fleſh of theſe animals was not confined to the iſlanders of the Pacific ocean. The ancients reckoned a young and fat dog excellent food, eſpecially if it had been caſtrated: Hippocrates placed it on a footing with mutton and pork; and in another place ſays, that the fleſh of a grown dog is wholeſome and ſtrengthening, of puppies relaxing. The Romans admired ſucking puppies: they ſacrificed them alſo to their divinities, and thought them a ſupper in which the gods themſelves delighted.

b, The barbet, whoſe hair being long and ſilky, is greatly valued by the New Zelanders for trimming their ornamental dreſs. This variety is not eaten. The iſlanders never uſe their dogs for any purpoſes but what we mention; and take ſuch care of them as not to ſuffer them even to wet their feet. They are exceſſively ſtupid, have a very bad noſe for ſmelling, and ſeldom or never bark, only now and then howl. The New Zelanders feed their dogs entirely with fiſh.

The Marqueſas, Friendly Iſlands, New Hebrides, New Caledonia, and Eaſter Iſle, have not yet received thoſe animals.

Having thus traced the varieties of the Dog, and noticed the peculiarities of each, we ſhall now give its general natural hiſtory.

From the ſtructure of the teeth, it might be concluded *à priori* that the dog is a carnivorous animal. He does not, however, eat indiſcriminately every kind of animal ſubſtance. There are ſome birds, as the colymbus arcticus, which the water-dog will lay hold of with keenneſs, but will not bring out of the water, becauſe its ſmell is exceedingly offenſive to him. He will not eat the bones of a gooſe, crow, or hawk: but he devours even the putrid fleſh of moſt other animals. He is poſſeſſed of ſuch ſtrong digeſtive powers, as to draw nouriſhment from the hardeſt bones. When fleſh cannot be procured, he will eat fiſh, fruits, ſucculent herbs, and bread of all kinds. When oppreſſed with ſickneſs, to which he is very ſubject, eſpecially in the beginning of ſummer, and before ill weather, in order to procure a puke, he eats the leaves of the quicken-graſs, the bearded wheat-graſs, or the rough cock's-foot graſs, which gives him immediate relief. When he ſteals a piece of fleſh, as conſcious of the immorality of the action, he runs off with his tail hanging and bent in betwixt his feet. Canis.

His drink is water, which he takes in ſmall quantities at a time, by licking with his tongue. He is in ſome meaſure obliged to lick in this manner, otherwiſe his noſe would be immerſed in the water.

His excrements are generally hard ſcybals, which, eſpecially after eating bones, are white, and go by the name of *album græcum* among phyſicians. This album græcum was for a long time in great repute as a ſeptic; but it is now entirely diſregarded. He does not throw out his excrements promiſcuouſly upon every thing that happens to be in the way, but upon ſtones, trunks of trees, or barren places. This is a wiſe inſtitution of nature; for the excrements of a dog deſtroy almoſt every vegetable or animal ſubſtance. They are of ſuch a putrid nature, that if a man's ſhoe touches them when recently expelled, that particular part will rot in a few days. He obſerves the ſame method in making his urine, which he throws out at a ſide. It is remarkable, that a dog will not paſs a ſtone or a wall againſt which any other dog has piſſed, without following his example, although a hundred ſhould occur in a few minutes, in ſo much that it is aſtoniſhing how ſuch a quantity can be ſecreted in ſo ſhort a time.

The dog is an animal not only of quick motion, but remarkable for travelling very long journeys. He can eaſily keep up with his maſter, either on foot or horſeback, for a whole day. When fatigued, he does not ſweat, but lolls out his tongue. Every kind of dog can ſwim; but the water-dog excels in that article.

The dog runs round when about to lie down, in order to diſcover the moſt proper ſituation. He lies generally on his breaſt, with his head turned to one ſide, and ſometimes with his head above his two fore-feet. He ſleeps little, and even that does not ſeem to be very quiet; for he often ſtarts, and ſeems to hear with more acuteneſs in ſleep than when awake. They have a tremulous motion in ſleep, frequently move their legs, and bark, which is an indication of dreaming.

Dogs are poſſeſſed of the ſenſation of ſmelling in a high degree. They can trace their maſter by the ſmell of his feet in a church, or in the ſtreets of a populous city. This ſenſation is not equally ſtrong in every kind. The hound can trace game, or his maſter's ſteps, 24 hours afterwards. He barks more furiouſly the nearer he approaches the fowls, unleſs he be beat and trained to ſilence.

The dog eats enviouſly, with oblique eyes; is an enemy to beggars; bites at a ſtone flung at it; is fond of licking wounds; howls at certain notes in muſic, and often urines on hearing them.

With regard to the propagation of dogs, the females admit the males before they are 12 months old. They remain in ſeaſon 10, 12, or even 15 days, during which time they will admit a variety of males. They come in ſeaſon generally twice in the year, and more frequently in the cold than in the hot months. The male diſcovers the condition of the female by the ſmell; but ſhe ſeldom admits him the firſt ſix or ſeven days. One coitus

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Canis. coitus will make her enneeive a great number of young; but, when not reſtrained, ſhe will admit ſeveral dogs every day: ſhe ſeems to have no choice or predilection, except in favour of large dogs: from this circumſtance it ſometimes happens, that a ſmall female, who has admitted a maſtiff, periſhes in bringing forth her young. During the time of copulation, theſe animals cannot ſeparate themſelves, but remain united ſo long as the erection ſubſiſts. This is owing to the ſtructure of the parts. The dog has not only a bone in his penis, but in the middle of the corpus cavernoſum there is a large hollow, which is blown up in the time of erection to a conſiderable bulk. The female, on the other hand, has a larger clitoris than perhaps any other animal: beſides, a large firm protuberance riſes in the time of copulation, and remains perhaps longer than that of the male, and prevents him from retiring till it ſubſides: accordingly, after the act of copulation is over, the male turns about in order to reſt himſelf on his legs, and remains in that poſition till the parts turn flaccid. The female goes with young about nine weeks. They generally bring forth from ſix to twelve puppies. Thoſe of a ſmall ſize bring forth five, four, and ſometimes but two. They continue to copulate and bring forth during life, which laſts generally about 14 or 15 years. The whelps are commonly blind, and cannot open their eyes till the 10th or 12th day: the males are like the dog, the females like the bitch. In the fourth month, they loſe ſome of their teeth, which are ſoon ſucceeded by others.

The dog has ſuch a ſtrong reſemblance to the wolf and the fox, that he is commonly ſuppoſed to be the production of one or other of theſe animals tamed and civilized. Buffon informs us, that he kept a young dog and a young wolf together till they were three years of age, without their diſcovering the leaſt inclination to copulate. He made the ſame experiment upon a dog and a fox; but their antipathy was rather increaſed when the female was in ſeaſon. From theſe experiments he concludes, that dogs, wolves, and foxes, are perfectly diſtinct genera of animals. There has, however, been lately an inſtance to the contrary: Mr Brooke, animal-merchant in Holborn, turned a wolf to a Pomeranian bitch in heat; the congreſs was immediate, and as uſual between dog and bitch: ſhe produced ten puppies. Mr Pennant ſaw one of them at Gordon Caſtle, that had very much the reſemblance of a wolf, and alſo much of its nature; being ſlipped at a weak deer, it inſtantly caught at the animal's throat and killed it. "I could not learn (ſays Mr Pennant) whether this mongrel continued its ſpecies; but another of the ſame kind did, and ſtocked the neighbourhood of Fochabers, in the county of Moray (where it was kept), with a multitude of curs of a moſt wolfiſh aſpect.—There was lately living a mongrel offspring of this kind. It greatly reſembled its wolf parent. It was firſt the property of Sir Wolſtein Dixey; afterwards of Sir Willughby Aſton. During day it was very tame; but at night ſometimes relapſed into ferocity. It never barked, but rather howled; when it came into fields where ſheep were it would feign lameneſs, but if no one was preſent would inſtantly attack them. It had been ſeen in copulation with a bitch, which afterwards popped: the breed was imagined to reſemble in many reſpects the ſuppoſed fire. It died between the age of five and ſix.—The hitch will alſo breed with the fox. The woodman of the manor of Mongewell, in Oxfordſhire, has a hitch, which conſtantly follows him, the offspring of a tame dog-fox by a ſhepherd's cur; and ſhe again has had puppies by a dog. Since there are ſuch authentic proofs of the further continuance of the breed, we may ſurely add the wolf and fox to the other ſuppoſed ſtocks of theſe faithful domeſtics." Canis.

With regard to the natural diſpoſition of the dog: in a ſavage ſtate, he is fierce, cruel, and voracious; but, when civilized and accuſtomed to live with men, he is poſſeſſed of every amiable quality. He ſeems to have no other deſire than to pleaſe and protect his maſter. He is gentle, obedient, ſubmiſſive, and faithful. Theſe diſpoſitions, joined to his almoſt unbounded ſagacity, juſtly claim the eſteem of mankind. Accordingly no animal is ſo much careſſed or reſpected: he is ſo ductile, and ſo much formed to pleaſe, that he aſſumes the very air and temper of the family in which he reſides.

An animal endowed with ſuch uncommon qualities muſt anſwer many uſeful purpoſes. His fidelity and vigilance are daily employed to protect our perſons, our flocks, or our goods. The acuteneſs of his ſmell gains him employment in hunting: he is frequently employed as a turnſpit: at Bruſſels and in Holland he is trained to draw little carts to the herb-market; and in the northern regions draws a ſledge with his maſter in it, or loaden with proviſions. The Kamſchatkans, Eſquimaux, and Greenlanders, ſtrangers to the ſofter virtues, treat theſe poor animals with great neglect. The former, during ſummer, the ſeaſon in which they are uſeleſs, turn them looſe to provide for themſelves; and recall them in October into their uſual confinement and labour: from that time till ſpring they are fed with fiſh-bones and *opana*, i. e. putrid fiſh preſerved in pits, and ſerved up to them mixed with hot water. Thoſe uſed for draught are caſtrated; and four, yoked to the carriage, will draw five poods, or a hundred and ninety Engliſh pounds, beſides the driver; and thus loaden, will travel 30 verſts, or 20 miles a-day; or if unloaden, on hardened ſnow, on ſliders of bone, a hundred and fifty verſts, or a hundred Engliſh miles.

It is pretty certain, Mr Pennant obſerves, that the Kamſchatkan dogs are of wolfiſh deſcent; for wolves abound in that country, in all parts of Siberia, and even under the arctic circle. If their maſter is flung out of his ſledge, they want the affectionate fidelity of the European kind, and leave him to follow, never ſtopping till the ſledge is overturned, or elſe ſtopped by ſome impediment. The great traveller of the 13th century, Marco Polo, had knowledge of this ſpecies of conveyance from the merchants who went far north to traffic for the precious furs. He deſcribes the ſledges; adds, that they were drawn by ſix great dogs; and that they changed them and the ſledges on the road, as we do at preſent in going poſt. The Kamſchatkans make uſe of the ſkins of dogs for clothing, and the long hair for ornament: ſome nations are fond of them as a food; and reckon a fat dog a great delicacy. Both the Aſiatic and American ſavages uſe theſe animals in ſacrifices to their gods, to beſpeak favour or avert evil. When the Koreki dread any infection, they kill a dog, wind the inteſtines round two poles, and paſs between them.

Canis. The Greenlanders are not better maſters. They leave their dogs to feed on muſcles or berries; unleſs in a great capture of ſeals, when they treat them with the blood and garbage. Theſe people alſo ſometimes eat their dogs; uſe the ſkins for coverlets, for clothing, or to border and ſeam their habits; and their beſt thread is made of the guts. Theſe northern dogs in general are large; and in the frigid parts at leaſt have the appearance of wolves: are uſually white, with a black face; ſometimes varied with black and white, ſometimes all white; rarely brown or all black: have ſharp noſes, thick hair, and ſhort ears; and ſeldom bark, but ſet up a ſort of growl or ſavage howl. They ſleep abroad; and make a lodge in the ſnow, lying with only their noſes out. They ſwim moſt excellently; and will hunt in packs the ptarmigan, arctic fox, polar bear, and ſeals lying on the ice. The natives ſometimes uſe them in the chaſe of the bear. They are exceſſively fierce; and, like wolves, inſtantly fly on the few domeſtic animals introduced into Greenland. They will fight among themſelves even to death. Canine madneſs is unknown in Greenland. Being to the natives in the place of horſes, the Greenlanders faſten to their ſledges from four to ten; and thus make their viſits in ſavage ſtate, or bring home the animals they have killed. Egede ſays that they will travel over the ice 15 German miles in a day, or 60 Engliſh, with ſledges loaden with their maſters and five or ſix large ſeals.

Thoſe of the neighbouring iſland of Iceland have a great reſemblance to them. As to thoſe of Newfoundland, it is not certain that there is any diſtinct breed: moſt of them are curs, with a croſs of the maſtiff: ſome will, and others will not, take the water, abſolutely refuſing to go in. The country was found uninhabited, which makes it more probable that they were introduced by the Europeans; who uſe them, as the factory does in Hudſon's bay, to draw ſtring from the woods to the forts. The ſavages who trade to Hudſon's bay make uſe of the wolfiſh kind to draw their furs.

It is ſingular, that the race of European dogs ſhow as ſtrong an antipathy to this American ſpecies as they do to the wolf itſelf. They never meet with them, but they ſhow all poſſible ſigns of diſlike, and will fall on and worry them; while the wolfiſh breed, with every mark of timidity, puts its tail between its legs, and runs from the rage of the others. This averſion to the wolf is natural to all genuine dogs; for it is well known that a whelp, which has never ſeen a wolf, will at firſt ſight tremble, and run to its maſter for protection: an old dog will inſtantly attack it. Yet theſe animals may be made to breed with one another as above ſhown; and the following abſtract of a letter from Dr Pallas to Mr Pennant, dated October 5th 1781, affords a further confirmation of the fact. "I have ſeen at Moſcow about twenty ſpurious animals from dogs and black wolves. They are for the moſt part like wolves, except that ſome carry their tails higher, and have a kind of hoarſe barking. They multiply among themſelves: and ſome of the whelps are greyiſh, ruſty, or even of the whitiſh hue of the arctic wolves; and one of thoſe I ſaw, in ſhape, tail, and hair, and even in barking, ſo like a cur, that was it not for his head and ears, his ill-natured look, and fearfulneſs at the approach of man, I ſhould hardly have believed that it was of the ſame breed." Canis.

The dog is liable to many diſeaſes, as the ſcab, madneſs, &c. and he ſeldom wants the tænia or tape-worm in his guts, eſpecially if he drinks dirty water.

II. The ſecond ſpecies of this genus is the Lupus, or Wolf. He has a long head, pointed noſe, ears erect and ſharp, long legs well clothed with hair; tail buſhy and bending down, with the tip black; head and neck aſh-coloured; body generally pale brown tinged with yellow: ſometimes found white, and ſometimes entirely black. The wolf is larger and fiercer than a dog. His eyes ſparkle, and there is a great degree of fury and wildneſs in his looks. He draws up his claws when he walks, to prevent his tread from being heard. His neck is ſhort, but admits of very quick motion to either ſide. His teeth are large and ſharp; and his bite is terrible, as his ſtrength is great. The wolf, cruel, but cowardly and ſuſpicious, flies from man; and ſeldom ventures out of the woods, except preſſed by hunger: but when this becomes extreme, he braves danger, and will attack men, horſes, dogs, and cattle of all kinds; even the graves of the dead are not proof againſt his rapacity. Theſe circumſtances are finely deſcribed, in the following lines: The Wolf.

By wintry famine rous'd,——————
Cruel as death, and hungry as the grave!
Burning for blood! bony, and ghaunt, and grim!
Aſſembling wolves in raging troops deſcend;
And, pouring o'er the country, hear along,
Keen as the north-wind ſweeps the gloſſy ſnow.
All is their prize. They faſten on the ſteed,
Preſs him to earth, and pierce his mighty heart.
Nor can the bull his awful front defend,
Or ſhake the murthering ſavages away.
Rapacious at the mother's throat they fly,
And tear the ſhrieking infant from her breaſt.
The god-like face of man avails him nought.
Even beauty, force divine! at whoſe bright glance
The generous lion ſtands in ſoften'd gaze,
Here bleeds, a hapleſs undiſtinguiſh'd prey.
But if, appris'd of the ſevere attack,
The country be ſhut up, lur'd by the ſcent,
On church-yards drear (inhuman to relate!)
The diſappointed prowlers fall, and dig
The ſhrouded body from the grave; o'er which,
Mix'd with foul ſhades and frighted ghoſts, they howl.
Thomson's Winter.

The wolf, unlike the dog, is an enemy to all ſociety, and keeps no company even with thoſe of his own ſpecies. When ſeveral wolves appear together, it is not a ſociety of peace, but of war; it is attended with tumult and dreadful prowlings, and indicates an attack upon ſome large animal, as a ſtag, an ox, or a formidable maſtiff. This military expedition is no ſooner finiſhed, than they ſeparate, and each returns in ſilence to his ſolitude. There is even little intercourſe between the males and females: They feel the mutual attractions of love but once a-year, and never remain long together. The females come in ſeaſon in winter: many males follow the ſame female; and this aſſociation is more bloody than the former; for they growl, chaſe, fight, and tear one another, and often ſacrifice

CANIS. Plate CXVIII.

A. Bell Prin. Wal. Sculptor fecit

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Canis. him that is preferred by the female. The female commonly flies a long time, fatigues her admirers, and retires, while they ſleep, with the moſt alert or moſt favourite male.

The ſeaſon of love continues only twelve or fifteen days; it commences with the eldeſt females; the young ones are not ſo early diſpoſed. The males have no marked period, but are equally ready at all times. They go from female to female, according as they are in a condition to receive them. They begin with the old females about the end of December, and finiſh with the young ones in the month of February or beginning of March. The time of geſtation is about three months and a half; and young whelps are found from the end of April to the month of July. The wolves copulate like the dogs, and have an oſſeous penis, ſurrounded with a ring, which ſwells and hinders them from ſeparating. When the females are about to bring forth, they ſearch for a concealed place in the inmoſt receſſes of the foreſt. After fixing on the ſpot, they make it ſmooth and plain for a conſiderable ſpace, by cutting and tearing up with their teeth all the brambles and bruſh-wood. They then bring great quantities of moſs, and prepare a commodious bed for their young, which are generally five or ſix, though ſometimes they bring forth ſeven, eight, and even nine, but never leſs than three. They come into the world blind, like the dogs; the mother ſuckles them ſome weeks, and ſoon learns them to eat fleſh, which ſhe prepares for them by tearing it into ſmall pieces. Some time after ſhe brings them field-mice, young hares, partridges, and living fowls. The young wolves begin by playing with theſe animals, and at laſt worry them; then the mother pulls off the feathers, tears them in pieces, and gives a part to each of her young. They never leave their den till the end of ſix weeks or two months. They then follow their mother, who leads them to drink in the hollow trunk of a tree, or in ſome neighbouring pool. She conducts them back to the den, or, when any danger is apprehended, obliges them to conceal themſelves elſewhere. Though, like other females, the ſhe-wolf is naturally more timid than the male; yet when her young are attacked, ſhe defends them with intrepidity; ſhe loſes all ſenſe of danger, and becomes perfectly furious. She never leaves them till their education is finiſhed, till they are ſo ſtrong as to need no aſſiſtance or protection, and have acquired talents fit for rapine, which generally happens in ten or twelve months after their firſt teeth (which commonly fall out in the firſt month) are replaced.

Wolves acquire their full growth at the end of two or three years, and live 15 or 20 years. When old, they turn whitiſh, and their teeth are much worn. When full, or fatigued, they ſleep, but more during the day than the night, and it is always a kind of ſlight ſlumber. They drink often; and, in the time of drought, when there is no water in the hollows, or in the trunks of old trees, they repair, ſeveral times in a day, to the brooks or rivulets. Though extremely voracious, if ſupplied with water, they can paſs four or five days without meat.

The wolf has great ſtrength, eſpecially in the anterior parts of the body, in the muſcles of the neck and jaws. He carries a ſheep in his mouth, and, at the ſame time, outruns the ſhepherds; ſo that he can only be ſtopped or deprived of his prey by dogs. His bite Canis. is cruel, and always more obſtinate in proportion to the ſmallneſs of the reſiſtance; for when an animal can defend itſelf, he is cautious and circumſpect. He never fights but from neceſſity, and not from motives of courage. When wounded with a ball, he cries; and yet, when diſpatching him with bludgeons, he complains not. When he falls into a ſnare, he is ſo overcome with terror, that he may be either killed or taken alive without reſiſtance: he allows himſelf to be chained, muzzled, and led where you pleaſe, without exhibiting the leaſt ſymptom of reſentment or diſcontent.

The ſenſes of the wolf are excellent, but particularly his ſenſe of ſmelling, which often extends farther than his eye. The odour of carrion ſtrikes him at the diſtance of more than a league. He likewiſe ſcents live animals very far, and hunts them a long time by following their tract. When he iſſues from the wood, he never loſes the wind. He ſtops upon the borders of the foreſt, ſmells on all ſides, and receives the emanations of living or dead animals brought to him from a diſtance by the wind. Though he prefers living to dead animals; yet he devours the moſt putrid careaſes. He is fond of human fleſh; and, if ſtronger, he would perhaps eat no other. Wolves have been known to follow armies, to come in troops to the field of battle, where bodies are careleſsly interred, to tear them up, and to devour them with an inſatiable avidity: And, when once accuſtomed to human fleſh, theſe wolves ever after attack men, prefer the ſhepherd to the flock, devour women, and carry off children. Wolves of this vicious diſpoſition are called *Loups garous* by the French peaſants, who ſuppoſe them to be poſſeſſed with ſome evil ſpirits; and of this nature were the *were wulfs* of the old Saxons.

The wolf inhabits the continents of Europe, Aſia, Africa, and America; Kamtſchatka, and even as high as the arctic circle. The wolves of North America are the ſmalleſt; and, when reclaimed, are the dogs of the natives: the wolves of Senegal the largeſt and fierceſt; they prey in company with the lion. Thoſe of the Cape are grey ſtriped with black; others are black.—They are found in Africa as low as the Cape; and are believed to inhabit New Holland, animals reſembling them having been ſeen there by the late circumnavigators. Dampier's people alſo ſaw ſome half-ſtarved animals in the ſame country, which they ſuppoſed to be wolves. In the eaſt, and particularly in Perſia, wolves are exhibited as ſpectacles to the people. When young, they are learned to dance, or rather to perform a kind of wreſtling with a number of men. Chardin tells us, that a wolf, well educated in dancing, is ſold at 500 French crowns. This fact proves, that theſe animals, by time and reſtraint, are ſuſceptible of ſome kind of education. M. Buffon brought up ſeveral of them: "When young, or during their firſt year (he informs us), they are very docile, and even careſſing; and, if well fed, neither diſturb the poultry nor any other animal: but, at the age of 18 months or two years, their natural ferocity appears, and they muſt be chained, to prevent them from running off and doing miſchief. I brought up one till the age of 18 or 19 months, in a court along with fowls, none of which he ever attacked; but, for his firſt eſſay, he killed the whole in one night, with-

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Canis. out eating any of them. Another, having broken his chain, run off, after killing a dog with whom he had lived in great familiarity."

Whole countries are ſometimes obliged to arm, in order to deſtroy the wolves. Princes have particular equipages for this ſpecies of hunting, which is both uſeful and neceſſary. Hunters diſtinguiſh wolves into *young*, *old*, and *very old*. They know them by the tracks of their feet. The older the wolf, his feet is the larger. The ſhe-wolf's feet are longer and more ſlender; her heel is alſo ſmaller, and her toes thinner. A good blood-hound is neceſſary for hunting the wolf: and, when he falls into the ſcent, he muſt be coaxed and encouraged; for all dogs have an averſion from the wolf, and proceed with coldneſs in the chace. When the wolf is raiſed, the gre-hounds are let looſe in pairs, and one is kept for diſlodging him, if he gets under cover; the other dogs are led before as a reſerve. The firſt pair are let looſe after the wolf, and are ſupported by a man on horſe-back; then the ſecond pair are let looſe at the diſtance of ſeven or eight hundred paces; and, laſtly, the third pair, when the other dogs begin to join and to teaze the wolf. The whole together ſoon reduce him to the laſt extremity; and the hunters complete the buſineſs by ſtabbing him with a dagger. The dogs have ſuch a reluctance to the wolf's fleſh, that it muſt be prepared and ſeaſoned before they will eat it. The wolf may alſo be hunted with beagles or hounds; but as he darts always ſtraight forward, and runs for a whole day without ſtopping, the chace is irkſome, unleſs the beagles be ſupported by grey-hounds, to teaze him, and give the hounds time to come up.

Wolves are now ſo rare in the populated parts of America, that the inhabitants leave their ſheep the whole night unguarded: yet the governments of Penſylvania and New Jerſey did ſome years ago allow a reward of twenty ſhillings, and the laſt even thirty ſhillings, for the killing of every wolf. Tradition informed them what a ſcourge thoſe animals had been to the coloonies; ſo they wiſely determined to prevent the like evil. In their infant ſtate, wolves came down in multitudes from the mountains, often attracted by the ſmell of the corpſes of hundreds of Indians who died of the ſmall-pox, brought among them by the Europeans: but the animals did not confine their inſults to the dead, but even devoured in their huts the ſick and dying ſavages.

Beſides being hunted, wolves are deſtroyed by pitfalls, traps, or poiſon. A peaſant in France who kills a wolf, carries its head from village to village, and collects ſome ſmall reward from the inhabitants: the Kirghis-Coſſacks take the wolves by the help of a large hawk called *berkut*, which is trained for the diverſion, and will faſten on them and tear out their eyes. Britain, a few centuries ago, was much infeſted by them. It was, as appears by Hollingſhed, very noxious to the flocks in Scotland in 1577; nor was it entirely extirpated till about 1680, when the laſt wolf fell by the hand of the famous Sir Ewen Cameron. We may therefore with confidence aſſert the non-exiſtence of theſe animals, notwithſtanding M. de Buffon maintains that the Engliſh pretend to the contrary. It has been a received opinion, that the other parts of theſe kingdoms were in early times delivered from this peſt by the care of king Edgar. In England he attempted to effect it, by commuting the puniſhments of certain crimes into the acceptance of a certain number of wolves tongues from each criminal; and in Wales by converting the tax of gold and ſilver into an annual tax of 300 wolves heads. But, notwithſtanding theſe his endeavours, and the aſſertions of ſome authors, his ſcheme proved abortive. We find, that ſome centuries after the reign of that Saxon monarch, theſe animals were again increaſed to ſuch a degree as to become again the object of royal attention: accordingly Edward I. iſſued out his royal mandate to Peter Corbet to ſuperintend and aſſiſt in the deſtruction of them in the ſeveral counties of Glouceſter Worceſter, Hereford, Salop, and Stafford; and in the adjacent county of Derby (as Cambden, p. 902, informs us), certain perſons at Wormhill held their lands by the duty of hunting and taking the wolves that infeſted the country, whence they were ſtyled *wolve-hunt*. To look back into the Saxon times, we find, that in Athelſtan's reign wolves abounded ſo in Yorkſhire, that a retreat was built at Hixton in that county, "to defend paſſengers from the wolves, that they ſhould not be devoured by them:" and ſuch ravages did thoſe animals make during wioter, particularly in January, when the cold was ſevereſt, that the Saxons diſtinguiſhed that month by the name of the *wolf-month*. They alſo called an outlaw *wolf's-head*, as being out of the protection of the law, proſcribed, and as liable to be killed as that deſtructive beaſt. Ireland was infeſted by wolves for many centuries after their extinction in England; for there are accounts of ſome being found there as late as the year 1710, the laſt preſentment for killing of wolves being made in the county of Cork about that time. Can.

In many parts of Sweden the number of wolves has been conſiderably diminiſhed by placing poiſoned careaſes in their way: but in other places they are found in great multitudes. Hunger ſometimes compels them to eat lichens: theſe vegetables were found in the body of one killed by a ſoldier; but it was ſo weak, that it could ſcarcely move. It probably had fed on the lichen vulpinus, which is a known poiſon to theſe animals. Madneſs, in certain years, is apt to ſeize the wolf. The conſequences are often very melancholy. Mad wolves will bite hogs and dogs, and the laſt again the human ſpecies. In a ſingle pariſh 14 perſons were victims to this dreadful malady. The ſymptoms are the ſame with thoſe attendant on the bite of a mad dog. Fury ſparkles in their eyes; a glutinous ſaliva diſtils from their mouths; they carry their tails low, and bite indifferently men and beaſts. It is remarkable that this diſeaſe happens in the depth of winter, ſo can never be attributed to the rage of the dog-days. Often, towards ſpring, wolves get upon the ice of the ſea, to prey on the young ſeals, which they catch aſleep: but this repaſt often proves fatal to them; for the ice, detached from the ſhore, carries them to a great diſtance from land, before they are ſenſible of it. In ſome years a large diſtrict is by this means delivered from theſe pernicious beaſts; which are heard howling in a moſt dreadful manner, far in the ſea. When wolves come to make their attack on cattle, they never fail attempting to frighten away the men by their cries; but the ſound of the horn makes them fly like lightning.

There is nothing valuable in the wolf but his ſkin, whic

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Canis. which makes a warm durable fur. His fleſh is ſo bad, that it is rejected with abhorrence hy all other quadrupeds; and nn animal hut a wolf will voluntarily eat a wolf. The fmell of his hreath is exceedingly offenſive. As, to appeaſe bunger, he ſwallows indiſcriminately every thing be can find, corrupted fleſh, bones, hair, ſkins half tanned and covered with lime, he vomits frequently, and empties himſelf oftener than he fills. In fine, the wolf is conſummately diſagreeable; his aſpect is haſe and ſavage, his voice dreadful, his odour inſupportable, his diſpoſition perverſe, his manners ferocious; odious and deſtructive when living, and, when dead, he is perfectly uſeleſs.

Hyæna. III. The Hyæna has a ſtraight jointed tail, with the hair of its neck erect, ſmall naked ears, and four toes on each foot. It inhahits Aſiatic Turky, Syria, Perſia, and Barhary. Like the jackal, it violates the repoſitories of the dead, and greedily devours the putrid contents of the grave; like it, preys on the herds and flocks; yet, for want of other food, will eat the roots of plants, and the tender ſhoots of the palms: but, contrary to the nature of the former, it is an unſociahle animal; is ſolitary, and inhahits the chaſms of the rocks. The ſuperſtitious Arahs, when they kill one, carefully bury the head, leſt it ſhould be employed for magical purpoſes; as the neck was of old by the Theſſalian forcereſs.

Viſcera non lyncis, non dira nodus hyæne
Deſuit. Lucan, vi. 672.

The ancients were wild in their opinion nf the hyæna; they believed that its neck conſiſted of one bone without any joint; that it changed its ſex; imitated the human voice; had the power of charming the ſhepherds, and, as it were, rivetting them to the place they ſtood on: no wonder that an ignorant Arab ſhnuld attribute preternatural powers to its remains. They are cruel, fierce, and untameable animals, of a moſt malevolent aſpect; have a ſort of obſtinate courage, which will make them face ſtronger quadrupeds than themſelves. Kæmpfer relates, that he ſaw one which had put two lions to flight, regarding them with the utmoſt coolneſs. Their voice is hoarſe, a diſagreeable mixture of growling and roaring.

Mr Pennant deſcribes a variety of this ſpecies, undiſtinguiſhed hy former naturaliſts, which be calls the *ſpotted hyæna*. It has a large and flat head; ſome long hairs above each eye; very long whiſkers on each ſide of the noſe; a ſhort hlack mane; hair on the body ſhort and ſmooth; ears ſhort and a little pointed, tbeir outſide black, inſide cinereous; face and upper part of the bead hlack; body and limbs reddiſh hrown, marked with diſtinct hlack round ſpots; the hind legs with hlack tranſverſe bars; the tail ſhnrt, black, and full of hair. It inhabits Guinea, Ethiopia, and the Cape: lives in holes in the earth, or cliffs of the rocks; preys by night; howls horribly; breaks into the folds, and kills two or three ſheep; devours as much as it can, and carries away one for a future repaſt; will attack mankind, ſcrape open graves, and devour the dead. Boſman has given this creature the name of *jackal*; by which Buffon being miſled, makes it ſynonymous with the common jackal. This hyæna is called the *tiger-wolf* hy the coloniſts at the Cape, where it is a very common and formidable beaſt of prey. Of this animal, formerly but imperfectly known, the following account is given by Dr Sparmann in his voyage to the Cape. Canis.

"The night, or the duſk of the evening only, is the time in which theſe animals ſeek their prey, after which they are uſed to roam about both ſeparately and in flocks. But one of the moſt unfortunate properties of this creature is, that it cannot keep its own counſel. The language of it cannot eaſily he taken down upon paper; however, with a view to make this ſpecies of wolf hetter knowo than it has been hitherto, I ſhall obſerve, that it is hy means of a ſonnd ſomething like the followiog, *aauae*, and ſometimes *oono*, yelled out with a tone of deſpair (at the interval of ſome minutes between each howl), that nature obliges this, the moſt voracious animal in all Africa, to diſcover itſelf, juſt as it does the moſt venomous of all the American ſerpents, hy the rattle in its tail, itſelf, to warn every one to avoid its mortal bite. This ſame rattle-ſnake would ſeem, in conſequence of thus betraying its own deſigns, and of its great inactivity (to be as it were nature's ſtep-child), if, according to many credible accounts, it had not the wondrous property of charming its prey by fixing its eye upon it. The like is affirmed alſo of the tiger-wolf. This creature, it is true, is ohliged to give information againſt itſelf; hut, on the other hand, is actually poſſeſſed of tbe peculiar gift of being enahled, in ſome meaſure, to imitate the cries of other animals; hy which means this arch-deceiver is ſometimes lucky enough to beguile and attract calves, fnals, lamhs, and other animals. Near ſome of the larger farms, where there is a great deal of cattle, this ravenous beaſt is to be found almoſt every night; and at the ſame time frequently from one hour to another betraying itſelf by its howlings, gives the dngs the alarm. The peaſants aſſured me, that the cunning of the wolves was ſo great (adding, that the trick had now and then even ſucceeded with ſome of them), that a party of them, half flying and half defending themſelves, would decoy the whole pack of dogs to follow them to the diſtance of a gun-ſhot or two from the farm, with a view to give an opportunity to the reſt nf the wolves to come out from their ambuſcade, and, without meeting with the leaſt reſiſtance, carry off booty ſufficient for themſelves and their fugitive brethren. As the tiger-wolf, though a much larger and ſtronger animal, does not venture, without being driven to the utmoſt neceſſity, to meaſure its ſtrength with the common dog, this is certainly an evident proof of its cowardice. Neither does this ſame voracious beaſt dare openly to attack oxen, cows, horſes, or any of the larger animals, while they make the leaſt appearanee as if they would defend themſelves, or even as long as they do not betray any ſigns of fear. On the other hand, it has art enough to ruſh in upon them ſuddenly and unexpectedly, at the ſame time ſetting up a horrid and ſtrange cry, ſo as to ſet them a running in conſequence of the fright, that it may afterwards keep cloſe to their heels with ſafety, till it has an opportunity with one hite or ſtroke to rip up the belly of its prey (even though it ſhould he ſo large an animal as a draught-ox), or elſe give it ſome dangerous hite, and ſo at one ſingle bout make itſelf maſter of its antagoniſt. On this account the peaſants are obliged to drive their cattle home every evening before

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Canis

it is dark, excepting the more conſiderable droves of draught-oxen, which they let roam about day and night to ſeek their food unattended, by reaſon that they are uſed both to the country and the artifices of the wolves, and can therefore the eaſier depend upon and defend each other.

"Travellers, on the other hand, who are obliged to keep on in their journey, frequently ſuffer great loſſes by turning their cattle out at night; eſpecially of the young ones, which are eaſieſt ſcared. The Hottentots informed me that it was ſtill within the memory of man, that the tiger-wolf was bold enough to ſteal upon them and moleſt them in their huts, particularly by carrying off their children. This, however, is now no longer the caſe; a circumſtance, perhaps, proceeding from the introduction of fire-arms into the country, a circumſtance which, in theſe latter times, has cauſed this, as well as other wild beaſts, to ſtand in greater awe of man than it did formerly. I have heard the following ſtory of the tiger-wolf mentioned, as being related in a certain treatiſe on the Cape, of which I now cannot exactly remember the title. The tale is laughable enough, though perhaps not quite ſo probable. 'At a feaſt near the Cape one night, a trumpeter who had got his fill was carried out of doors, in order that he might cool himſelf, and get ſober again. The ſcent of him ſoon drew thither a tiger-wolf, which threw him on his back, and dragged him along with him as a corpſe, and conſequently a fair prize, up towards Table-mountain. During this, however, our drunken muſician waked enough to his ſenſes to know the danger of his ſituation, and to ſound the alarm with his trumpet, which he carried faſtened to his ſide. The wild beaſt, as may eaſily be ſuppoſed, was not leſs frightened in his turn.' Any other beſides a trumpeter would, in ſuch circumſtances, have undoubtedly been no better than wolf's meat.

"In the mean while it is certain, that theſe wolves are to be found almoſt every dark night about the ſhambles at the Cape, where they devour the offals of bones, ſkin, &c. which are thrown out there in great quantities, and drag away with them what they cannot eat. The inhabitants repay theſe good offices of the hyæna with a free and unlimited privilege of acceſs and egreſs. The dogs too hereabouts, perfectly accuſtomed to their company, are ſaid never to throw any impediment in their way; ſo that the beaſt, entertained and fed in the very heart of the town, has been ſeldom known to do any miſchief there. It is likewiſe a well-known fact, that theſe wolves, in different parts of Africa, exhibit different degrees of courage; this, however, may perhaps proceed from their being of different ſpecies in different parts.

"Yet in this very greedineſs of the hyæna, and its diſpoſition to conſume every thing it can get at, the provident economy of nature is abundantly evinced. The flowery fields at the Cape would certainly ſoon become hideous and diſfigured with carcaſes and ſkeletons, the relicks of the great quantity of game of all ſorts which graze and die there in ſucceſſion, were not the tiger-wolf manifeſtly ſubſervient to nature in the regulation of her police, by clearing her theatre from them; nay, I had almoſt ſaid the wolf alone: for lions and tigers, for example, never eat bones, and are not very fond of carcaſes. Theſe are ſerviceable in another way. They make the other animals vigilant and attentive to the functions for which nature has deſigned them; and beſides anſwering ſeveral other intentions of providence, they ſerve, in conjunction with mankind, to keep in a juſt equilibrium the increaſe of the animal kingdom; ſo that it may not exceed the ſupplies afforded it by the vegetable part of the creation, and by this means prevent the neceſſary renewal of the latter by ſeeds, &c. and thus, by deſolating it and laying it waſte, in the end impoveriſh and deſtroy themſelves, and die moſt wretched victims to want and hunger; ſo that, notwithſtanding the immenſe quantities of game exiſting in this country, there are very ſeldom found any bones in the haunts they have left, and never after the tiger, lion, jackal, wild cat, and wild dog. Theſe latter animals, that they may not encumber and litter the ground which nature has ordained them to clear, never go out of their dens and caverns when they find themſelves ſick and diſabled; but there, oppreſſed with hunger and diſeaſe, await the tranſitory moment, when they muſt pay obedience to nature's laſt law."

Canis

IV. The MEXICANUS has a ſmooth crooked tail. The body is aſh-coloured, variegated with yellow ſpots. It is a native of Mexico, and is called the *mountain-cat* by Seba. It agrees with the European wolf in its manners; attacks cattle, and ſometimes men. The Mexicanus.

V. The VULPES, or Fox, has a ſtraight tail, white at the point. His body is yellowiſh, or rather ſtraw-coloured; his ears are ſmall and erect; his lips are whitiſh, and his foreſeet black. From the baſe of the tail a ſtrong ſcent is emitted, which to ſome people is very fragrant, and to others extremely diſagreeable. The fox is a native of almoſt every quarter of the globe, and is of ſuch a wild and ſavage nature that it is impoſſible fully to tame him. He is eſteemed to be the moſt ſagacious and the moſt crafty of all beaſts of prey. The former quality he ſhows in his method of providing himſelf with an aſylum, where he retires from preſſing dangers, where he dwells, and where he brings up his young: and his craftineſs is chiefly diſcovered by the ſchemes he falls upon in order to catch lambs, geeſe, hens, and all kinds of ſmall birds. The fox fixes his abode on the border of the wood, in the neighbourhood of cottages: he liſtens to the crowing of the cocks and the cries of the poultry. He ſcents them at a diſtance; he chooſes his time with judgment; he conceals his road as well as his deſign; he ſlips forward with caution, ſometimes even trailing his body, and ſeldom makes a fruitleſs expedition. If he can leap the wall, or get in underneath, he ravages the court-yard, puts all to death, and then retires ſoftly with his prey, which he either hides under the herbage, or carries off to his kennel. He returns in a few minutes for another, which he carries off, or conceals in the ſame manner, but in a different place. In this way he proceeds till the progreſs of the ſun, or ſome movements perceived in the houſe, adverti ſe him that it is time to ſuſpend his operations, and to retire to his den. He plays the ſame game with the catchers of thruſhes, wood-cocks, &c. He viſits the nets and bird-lime very early in the morning, carries off ſucceſſively the birds which are entangled, and lays them in different places, eſpecially near the ſides of high-ways, in the furrows, under the herbage or bruſhwood, where they ſometimes The Fox.

lie

CANIS. Plate CXIX.

King Charles's Dog.
Pyrame D.
Shock D.
Small Danish D.
Lion D.
Bastard Pug D.
Naked Turkish D.
Mongrel Turkish D.
Pug D.
The Wolf.
Mongrel Hound.

A. Bell Pinx.t et Sculptor fecit.

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Canis. lic two or three days; but he knows perfectly where to find them when he is in need. He hunts the young hares in the plains, feizes old ones in their feats, never miſſes thoſe which are wounded, digs out the rabbits in the warrens, diſcovers the nells of partridges and quails, feizes the mothers on the eggs, and deſtroys a vaſt quantity of game. The fox is exceedingly voracious; beſides fleſh of all kinds, he eats, with equal avidity, eggs, milk, cheeſe, fruits, and particularly grapes. When the young hares and partridges fail him, he makes war againſt rats, field-mice, ſerpents, lizards, toads, &c. Of theſe he deſtroys vaſt numbers; and this is the only ſervice he does to mankind. He is ſo fond of honey, that he attacks the wild bees, waſps, and hornets. They at firſt put him to flight by a thouſand ſtings; but he retires only for the purpoſe of rolling himſelf on the ground to cruſh them; and he returns ſo often to the charge, that he obliges them to abandon the hive, which he ſoon uncovers, and devours both the honey and wax. In a word, he eats fiſhes, lobſters, graſs-hoppers, &c.

The fox is not eaſily, and never fully tamed: he languiſhes when deprived of liberty; and, if kept too long in a domeſtic ſtate, he dies of chagrin. Foxes produce but once a year; and the litter commonly conſiſt of four or five, ſeldom ſix, and never leſs than three. When the female is full, ſhe retires, and ſeldom goes out of her hole, where ſhe prepares a bed for her young. She comes in ſeaſon in the winter; and young foxes are found in the month of April. When ſhe perceives that her retreat is diſcovered, and that her young have been diſturbed, ſhe carries them off one by one, and goes in ſearch of another habitation. The young are brought forth blind; like the dogs, they grow 18 months, or two years, and live 13 or 14 years.—The fox, as well as the congenerous wolf, will produce with the dog-kind, as noticed above.

The ſenſes of the fox are equally good as thoſe of the wolf; his ſentiment is more delicate; and the organs of his voice are more pliant and perfect. The wolf ſends forth only frightful howlings; but the fox barks, yelps, and utters a mournful cry like that of the peacock. He varies his tones according to the different ſentiments with which he is affected: he has an accent peculiar to the chace, the tone of deſire, of complaint, and of ſorrow. He has another cry expreſſive of acute pain, which he utters only when he is ſhot, or has ſome of his members broken; for he never complains of any other wound, and, like the wolf, allows himſelf to be killed with a bludgeon without complaining; but he always defends himſelf to the laſt with great courage and bravery. His bite is obſtinate and dangerous; and the ſevereſt blows will hardly make him quit his hold. His yelping is a ſpecies of barking, and conſiſts of a quick ſucceſſion of ſimilar tones; at the end of which he generally raiſes his voice ſimilar to the cry of the peacock. In winter, and particularly during froſt and ſnow, he yelps perpetually; but, in ſummer, he is almoſt entirely ſilent, and, during this ſeaſon, he caſts his hair. He ſleeps ſound, and may be eaſily approached without wakening: he ſleeps in a round form, like the dog; but, when he only repoſes himſelf, he extends his hind legs, and lies on his belly. It is in this ſituation that he ſpies the birds along the hedges, and meditates ſchemes for their ſurpriſe. The fox flies when he hears the exploſion of a gun, or ſmells gun powder. He is exceedingly fond of grapes, and does much miſchief in vineyards. Various methods are daily employed to deſtroy foxes: they are hunted with dogs; iron traps are frequently ſet at their holes; and their holes are ſometimes ſmoked to make them run out, that they may the more readily fall into the ſnares, or be killed by dogs or fire-arms. Canis.

The chace of the fox requires leſs apparatus, and is more amuſing, than that of the wolf. To the latter every dog has great reluctance: but all dogs hunt the fox ſpontaneouſly and with pleaſure; for, though his odour be ſtrong, they often prefer him to the ſtag or the hare. He may be hunted with terriers, hounds, &c. Whenever he finds himſelf purſued, he runs to his hole; the terriers with crooked legs, or turnſpits, go in with moſt eaſe. This mode anſwers very well when we want to carry off a whole litter of foxes, both mother and young. While the mother defends herſelf againſt the terriers, the hunters remove the earth above, and either kill or ſeize her alive. But, as the holes are often under rocks, the roots of trees, or ſunk too deep in the ground, this method is frequently unſucceſsful. The moſt certain and moſt common method of hunting foxes, is to begin with ſhutting up their holes, to place a man with a gun near the entrance, and then to ſearch about with the dogs. When they fall in with him, he immediately makes for his hole; but, when he comes up to it, he is met with a diſcharge from the gun. If he eſcapes the ſhot, he runs with full ſpeed, takes a large circuit, and returns again to the hole, where he is fired upon a ſecond time; but, finding the entrance ſhut, he now endeavours to eſcape by darting ſtraight forward, with the deſign of never reviſiting his former habitation. He is then purſued by the hounds, whom he ſeldom fails to fatigue, becauſe he purpoſely paſſes through the thickeſt parts of the foreſt or places of the moſt difficult acceſs, where the dogs are hardly able to follow him; and, when he takes to the plains, he runs ſtraight out, without ſtopping or doubling.

Of all animals the fox has the moſt ſignificant eye, by which it expreſſes every paſſion of love, fear, hatred, &c. It is remarkably playful; but, like all ſavage creatures half reclaimed, will on the leaſt offence bite thoſe it is moſt familiar with. It is a great admirer of its buſhy tail, with which it frequently amuſes and exerciſes itſelf, by running in circles to catch it: and, in cold weather, wraps it round its noſe. The ſmell of this animal is in general very ſtrong, but that of the urine is remarkably fetid. This ſeems ſo offenſive even to itſelf, that it will take the trouble of digging a hole in the ground, ſtretching its body at full length over it; and there, after depoſiting its water, cover it over with the earth, as the cat does its dung. The ſmell is ſo obnoxious, that it has often proved the means of the fox's eſcape from the dogs; who have ſo ſtrong an averſion at the filthy effluvia, as to avoid encountering the animal it came from. It is ſaid that the fox makes uſe of its urine as an expedient to force the cleanly badger from its habitation: whether that is the means, is rather doubtful; but that the fox makes uſe of the badger's hole is certain: not through want of ability to form its own retreat, but to ſave itſelf ſome trouble; for after the expulſion

Canis. pulſion of the firſt inhabitant, the fox improves as well as enlarges it conſiderably, adding ſeveral chambers, and providently making ſeveral entrances to ſecure a retreat from every quarter. In warm weather, it will quit its habitation for the ſake of baſking in the ſun, or to enjoy the free air; but then it rarely lies expoſed, but chooſes ſome thick brake, that it may reſt ſecure from ſurprize. Crows, magpies, and other birds, who conſider the fox as their common enemy, will often, by their notes of anger, point out its retreat.—The ſkin of this animal is furniſhed with a warm ſoft fur, which in many parts of Europe is uſed to make muffs and to line clothes. Vaſt numbers are taken in Le Vallais, and the Alpine parts of Switzerland. At Lauſanne there are furriers who are in poſſeſſion of between 2000 and 3000 ſkins, all taken in one winter.

Of the fox there are ſeveral varieties, derived from colour; as,

1. The field-fox, or *alopex* of Linnæus, who makes it a diſtinct ſpecies; but it is every way the ſame with the common fox, except in the point of the tail, which is black.

2. The croſs-fox, with a black mark paſſing tranſverſely from ſhoulder to ſhoulder, with another along the back to the tail. It inhabits the coldeſt parts of Europe, Aſia, and North-America: a valuable fur, thicker and ſofter than the common ſort; great numbers of the ſkins are imported from Canada.

3. The black fox is the moſt cunning of any, and its ſkin the moſt valuable; a lining of it is, in Ruſſia, eſteemed preferable to the fineſt ſables: a ſingle ſkin will ſell for 400 rubles. It inhabits the northern parts of Aſia and North-America. The laſt is inferior in goodneſs.

4. The brant fox, as deſcribed by Geſner and Linnæus, is of a fiery redneſs; and called by the firſt *brand-fuchs*, by the laſt *brandraef*; it is ſcarce half the ſize of the common fox: the noſe is black, and much ſharper; the ſpace round the ears ferruginous; the forehead, back, ſhoulders, thighs, and ſides black mixed with red, aſh-colour, and black; the belly yellowiſh; the tail black above, red beneath, and cinereous on its ſide. It is a native of Penſylvania.

5. The corſac-fox, with upright ears, ſoft downy hair; tail buſhy; colour in ſummer pale tawney, in winter grey: the haſe and tip of the tail black; a ſmall kind. It inhabits the deſarts beyond the Yaik: lives in holes: howls and barks: is caught by the Kirgis Caſſacks with falcons and gre-hounds; 40 or 50,000 are annually taken, and ſold to the Ruſſians, at the rate of 40 kopeiks, or 20 pence, each: the former uſe their ſkins inſtead of money: great numbers are ſent into Turky.

6. There are three varieties of foxes found in the mountainous parts of Britain, which differ a little in form, but not in colour, from each other. They are diſtinguiſhed in Wales by as many different names. The *milgi*, or *gre-hound-fox*, is the largeſt, talleſt, and boldeſt; and will attack a grown ſheep or wedder: the *maſtiff-fox* is leſs, but more ſtrongly built: the *corgi*, or *cur-fox* is the leaſt; lurks about hedges, out-houſes, &c. and is the moſt pernicious of the three to the feathered tribe. The firſt of theſe varieties has a white tag or tip to the tail; the laſt a black. When hunted, they never run directly forward, but make a great many doublings and turnings; and when in danger of being taken, they emit ſuch a ſmell from their poſteriors that the hunters can hardly endure it. Canis.

VI. The LAGOPUS, or arctic fox, with a ſharp noſe; ſhort rounded ears, almoſt hid in the fur; long and fine hair, ſomewhat woolly; ſhort legs; toes covered on all parts, like that of a common hare, with fur; tail ſhorter and more buſhy than that of the common fox, of a bluiſh grey or aſh colour, ſometimes white: the young of the grey are black before they come to maturity: the hair much longer in winter than ſummer, as is uſual with animals of cold climates. It inhabits the countries bordering on the Frozen Sea; Kamſchatka, the iſles between it and America, and the oppoſite parts of America diſcovered in captain Bering's expedition, 1741; is again found in Greenland, Iceland, Spitzbergen, Nova Zembla, and Lapland. It burrows underground, forms holes many feet in length, and ſtrews the bottom with moſs. In Greenland and Spitzbergen it lives in the cliffs of rocks, not being able to borrow, by reaſon of the froſt: two or three pair inhabit the ſame hole. They are in heat about Lady-day; and during that time, they continue in the open air, but afterwards take to their holes. They go with young nine weeks: like dogs, they continue united in copulation: they bark like that animal, for which reaſon the Ruſſians call them *peſzti*, or dogs. They have all the cunning of the common fox; prey on geeſe, ducks, and other water-fowl, before they can fly; on grouſe of the country, on hares, and the eggs of birds; and in Greenland (through neceſſity) on berries, ſhell-fiſh, or any thing the ſea flings up. But their principal food in the north of Aſia and in Lapland is the leming, or Lapland marmot: thoſe of the countries laſt mentioned are very migratory, purſuing the leming which is a wandering animal: ſometimes theſe foxes will deſert the country for three or four years, probably in purſuit of their prey; for it is well known that the migrations of the leming are very inconſtant, it appearing in ſome countries only once in ſeveral years. The people of Jeneſea ſuſpect they go to the banks of the Ohy. Their chief rendezvous is on the banks of the Frozen Sea, and the rivers that flow into it, where they are found in great troops. The Greenlanders take them either in pitfalls dug in the ſnow, and baited with the capelin fiſh; or in ſprings made with whalebone, laid over a hole made in the ſnow, ſtrewed over at bottom with the ſame kind of fiſh; or in traps made like little huts, with flat ſtones, with a broad one by way of door, which falls down (by means of a ſtring baited on the inſide with a piece of fleſh) whenever the fox enters and pulls at it. The Greenlanders preſerve the ſkins for traffic; and in caſes of neceſſity eat the fleſh. They alſo make buttons of the ſkins; and ſplit the tendons, and make uſe of them inſtead of thread. The blue furs are much more eſteemed than the white. The arctic Fox.

VII. The INDICA, or antarctic fox (the *coyotl* of Fernandez, the *loup-renard* of Bougainville), has ſhort pointed ears; irides hazel; head and body cinereous brown; hair more woolly than that of the common fox, reſembling much that of the arctic; legs daſhed with ruſt-colour; tail duſky, tipped with white; ſhorter and more buſhy than that of the common fox, to which it is about one-third ſuperior in ſize. It has much the habit of the wolf, in ears, tail, and ſtrength of limbs. The antarctic Fox.

The

Canis. The French therefore call it *loup-renard*, or wolf-fox. It may be a wolf degenerated by climate. The largeſt are thoſe of Senegal: the next are the European: thoſe of North America are ſtill ſmaller. The Mexican wolves, which Mr Pennant apprehends to be this ſpecies, are again leſs; and this, which inhabits the Falkland iſles, near the extremity of South America, is dwindled to the ſize deſcribed. This is the only land animal of thoſe diſtant iſles: it has a fetid ſmell, and barks like a dog. It lives near the ſhores; kennels like a fox; and forms regular paths from bay to bay, probably for the conveniency of ſurpriziog the waterfowl, oo whieb it lives. It is at times very meagre, from want of prey; and is extremely tame. The iſlands were propably ſtocked with thoſe animals by means of maſſes of iee broken from the eontinent, and carrird by the currents.

The grey-fox of Cateſby. VIII. The Grey-fox of Cateſby, &c. has a ſharp noſe; ſharp, long, upright ears; legs long; colour grey, except a little redneſs about the ears.—It inhabits Carolina, and the warmer parts of North America: It differs from the arctic fox in form, and the nature of its dwelling; agrees with the common fox in the firſt, varies from it in the laſt: It never burrows, but lives in bollow trees; it gives oo diverſion to tbe ſportſman; for after a mile's ehace, it takes to its retreat; it has no ſtrong ſmell; it feeds on poultry, birds, &c. Theſe foxes are eaſily made tame; their ſkins, when in ſeaſon, made uſe of for muffs.

The ſilver Fox of Louiſiana. IX. The Silver fox of Louiſiana. It reſembles the common fox in form, but bas a moſt beautiful coat. The ſhort hairs are of a deep brown; and over them ſpring long ſilvery bairs, which give the animal a very elegant appearance. They live in foreſts abounding in game, and never attempt the poultry which ruo at large. The woody eminenees in Louiſiana are every where pierced with their holes.

The Barbary Fox. X. The Barbary fox, (*le Chacal*, Buff.), or jaekal-adive, haa a long and ſlender noſe, ſharp upright ears, long bnſhy tail: colour, a very pale brown; ſpace above and below the eyes, black; from bebind each ear, there is a blaek line, whieb ſoon divides into two, which extend to the lower part of the neck; and the tail is ſurrounded with three broad rings. This ſpecies is of the ſize of the common fox, but the limbs are ſhorter, and the noſe is more ſlender.—M. de Buſon inforins us, that Mr Bruee told him this animal was common in Barbary, where it was called *thaleb*. But Mr Pennant obſerves, that Mr Bruce ſhould have given it a more diſtinguiſhing name; for *thaleb*, or *taaleb*, is no more than the Arahic name for the eommon fox, whieh is alſo frequent in that eountry.

The Jackal. XI. The Avaava, Schakal, or Jaekal, as deſcribed by Mr Pennant, has yellowiſh brown ſides; ears ereſt, formed like thoſe of a fox, but ſhorter and leſs pointed: hairy and white within; brown without, tinged with duſky: head ſhorter than that of a fox, and noſe bluntcr: lips black, and ſomewhat looſe: neek and body very much reſembling thoſe of that animal, but the body more eompreſſed: the legs have the ſame reſemblance, but are longer: tail thickeſt in the middle, tapering to the point: five toes on the fore feet; the inner toe very ſhort, and placed high: four tees on the hind feet; all are covered with hair even to the elaws The hairs are much ſtiffer than thoſe of a fox, but ſcarcely ſo ſtiff as thoſe of a wolf; ſhort about the noſe; on the baek, tbree inches long; on the belly ſhorter. Thoſe at tbe end of the tail four inches long. Colour of tbe upper part of the body a ditty tawny; on the back, mixed with blaek: lower part of the body of a yellowiſh white: tail tipt with black; the reſt of tbe ſame eolour with the back: the legs of an unmixed tawny brown; the fore legs marked (but not always) with a black ſpot on the knees; but on no part are thoſe vivid colours which could merit the title of *golden*, beſtowed on it hy Kæmpfer.—The length of this animal from the noſe to the root of the tail is little more than twenty nine inches Engliſh: the tail, to the ends of the hairs, ten three quarters; the tip reaching to the top of the hind legs: the height, from the ſpaee between the ſhoulders to the ground, rather more than eighteen inebes and a half; the hind parts a little bigher.—This ſpecies inhabits all the hot and temperate parts of Aſia, India, Perſia, Arabia, Great Tartary, and about Mount Caucaſus, Syria, and the Holyland. It is found in moſt parts of Africa, from Barbary to the Cape of Good Hope.

Profeſſor Gueldenſtaedt *, the able deſcriber of this long-loſt animal, remarks, that the cæcum entirely agrees in form with that of a dog, and differs from that of the wolf and fox. And Mr Pennant obſerves, that there is the ſame agreement in the teeth with thoſe of a dog; and tbe ſame variation in them from thoſe of the two other animals. Theſe eireumſtanees ſtrengthen the opinion entertained by ſome writers, that the dogs of tbe old world did derive their origin from one or other of them. The jaekals have indeed ſo mueh the nature of dogs, as to give reaſonable cauſe to imagine that they are at leaſt the *chief* ſtock from which is ſprung the various raees of thoſe domeſtie animals. When taken young, they grow inſtantly tame; attach themſelves to mankind; wag tbeir tails; love to be ſtroked; diſtinguiſh their maſters from otbers; will come on being called hy the name given to them; will leap on the table, being eneouraged to it: they drink, lapping; and make water ſideways, with their leg held up. Their dung is hard: *odorat anum alterius, coharet copula junctus*. When tbey ſee dogs, inſtead of flying, they ſeek them, and play with them. They will eat bread eagerly; notwithſtanding they are in a wild ſtate carnivorous. They have a great reſemblance to ſome of the Calmue dogs, whieb perhaps were but a few deſcents removed from the wild kinds. Our dogs are probably derived from thoſe reclaimed in the firſt ages of the world; altered by numberleſs accidents into the many varieties which now appear among us.

* *Nov. Com. Petrop.* xx. 449.

The wild ſchakals go in paeks of 40, 50, and even two hundred, and hunt like hounds in full ery from evening to morning. They deſtroy flocks and poultry, but in a leſs degree than the wolf or fox: ravage the ſtreets of villages and gardens near towns, and will even deſtroy children, if left unprotected. They will enter ſtables and outhouſes, and devour ſkins, or any thing made of that material. They will familiarly enter a tent, and ſteal whatſoever they can find from the ſleeping traveller. In defaut of living prey, they will feed on roots and fruits; and even on the moſt infected carrion: they will greedily diſinter the dead, and devour the putrid carcaſes; for which reaſon, in many countries the graves are made of a great depth. They attend.

Canis. tend caravans, and follow armies, in hopes that death will provide them a banquet.

Their voice naturally is a howl. Barking, Mr Pennant obſerves, is latently inherent; and in their ſtate of nature ſeldom exerted: but its different modifications are adventitious, and expreſſive of the new paſſions and affections gained by a domeſtic ſtate. Their howlings and clamours in the night are dreadful, and ſo loud that people can ſcarcely hear one another ſpeak. Dellon ſays, their voice is like the cries of a great many children of different ages mixed together; when one begins to howl, the whole pack join in the cry. Kæmpfer ſays, that every now and then a ſort of bark is intermixed; which confirms what is above aſſerted by Mr Pennant. Dellon agrees in the account of their being tamed, and entertained as domeſtic animals. During day they are ſilent. They dig burrows in the earth, in which they lie all day, and come out at night to range for prey: they hunt by the noſe, and are very quick of ſcent. The females breed only once a year; and go with young only four weeks; they bring from ſix to eight at a time. Both Mr Gueldenſtaedt and Mr Bell contradict the opinion of their being very fierce animals.

This animal is vulgarly called the *Lion's Provider*, from an opinion that it rouzes the prey for that bad-noſed quadruped. The fact is, every creature in the foreſt is ſet in motion by the fearful cries of the jackals; the lion, and other beaſts of rapine, by a ſort of inſtinct, attend to the chace, and ſeize ſuch timid animals as betake themſelves to flight at the noiſe of this nightly pack. The jackal is deſcribed by Oppian, under the name of Αυκος θωος, or *yellow wolf*; who mentions its horrible howl. It may, as M. de Buffon conjectures, be the Θως of Ariſtotle, who mentions it with the wolf, and ſays that it has the ſame internal ſtructure as the wolf, which is common with congenerous animals. The Thoes of Pliny may alſo be a variety of the ſame animal; for his account of it agrees with the modern hiſtory of the ſchakal, except in the laſt article: "Thoes, Luporum id genus eſt procerius longitudine, brevitate crurum diſſimile, velox ſaltu, venatu vivens, innocuum homini;" lib. viii. c. 34.

The Mesomelas. XII. The Mesomelas, or *Capeſch* of Schreber, the *tenlie* or *kenlie* of the Hotentots, has erect yelloviſh brown ears, mixed with a few ſcattered black hairs: the head is of a yelloviſh brown, mixed with black and white, growing darker towards the hind part: the ſides are of a light brown, varied with duſky hairs: the body and alſo the back part of the legs are of a yelloviſh brown, lighteſt on the body; the throat, breaſt, and belly white. On the neck, ſhoulders, and back, is a bed of black; broad on the ſhoulders, and growing narrower to the tail: when the hairs are ſmooth, the part on the neck ſeems barred with white; that on the ſhoulders with white conoid marks, one within the other, the end pointing to the back: when the hairs are ruffled, theſe marks vaniſh, or grow leſs diſtinct, and a hoarineſs appears in their ſtead. The tail is buſhy, of a yelloviſh brown; marked on the upper part with a longitudinal ſtripe of black, and towards the end encircled with two rings of black, and is tipt with white. In length, the animal is two feet three quarters, to the origin of the tail: the tail is one foot. This ſpecies inhabits the countries about the Cape of Good Hope, and probably is found as high as the line.

Canis. Canicz. The Thoes. XIII. The Thous has a ſmooth crooked tail; the upper part of its body is grey, and its belly white. It is about the ſize of a large cat; and, according to Linnæus, is found at Surinam; it is mentioned by no other naturaliſt.

The Zerda. XIV. The Zerda. This animal has a very pointed viſage; large bright black eyes; very large ears, of a bright roſe-colour, internally lined with long hairs; the orifice ſo ſmall as not to be viſible, probably covered with a valve or membrane: the legs and feet are like thoſe of a dog; the tail is taper: colour between a ſtraw and pale brown. Length from noſe to tail, ten inches; ears, three inches and a half long; tail, ſix: height, not five. It inhabits the vaſt deſart of Saara, which extends beyond mount Atlas: It burrows in the ſandy ground, which ſhows the neceſſity of the valves to the ears; and is ſo exceſſively ſwift, that it is very rarely taken alive. It feeds on inſects, eſpecially locuſts: ſits on its rump: is very vigilant: barks like a dog, but much ſhriller, and that chiefly in the night: never is obſerved to be ſportive. We are indebted to Mr Eric Skioldebrand, the late Swediſh conſul at Algiers, for our knowledge of this ſingular animal. He never could procure but one alive, which eſcaped before he examined its teeth: the genus is very uncertain: the form of its head and legs, and ſome of its manners, determined Mr Pennant to rank it in this genus. That which was in poſſeſſion of Mr Skioldebrand fed freely from the hand, and would eat bread or boiled meat. Buffon has given a figure of this animal; but from the authority of Mr Bruce aſcribes to it a different place, and different manners. He ſays that it is found to the ſouth of the Palus Tritonides, in Libya; that it has ſomething of the nature of the hare, and ſomething of the ſquirrel; and that it lives on the palm-trees, and feeds on the fruits.

Canis Major, the great dog in aſtronomy, a conſtellation of the ſouthern hemiſphere, below Orion's feet, though ſomewhat to the weſtward of him; whoſe ſtars Ptolemy makes 29; Tycho obſerved only 13; Hevelius 21; in the Britannic catalogue they are 31.

Canis Minor, the little dog, in aſtronomy, a conſtellation of the northern hemiſphere; called alſo by the Greeks, *Procyon*, and by the Latins *Antecanis* and *Canicula*. The ſtars in the conſtellation canis minor, are in Ptolemy's catalogue 2; in Tycho's, 5; in Hevelius's, 13; and in the Britiſh catalogue, 14.

CANISIUS (Henry), a native of Nimeguen, and one of the moſt learned men of his time, was profeſſor of canon law at Ingolſtadt; and wrote a great number of books; the principal of which are, 1. *Summa Juris Canonici*. 2. *Antiquæ lectiones*, a very valuable work. He died in 1609.

CANITZ (the baron of), a German poet and ſtateſman, was of an ancient and illuſtrious family in Brandenburg, and born at Berlin in 1564, five months after his father's death. After his early ſtudies, he travelled to France, Italy, Holland, and England; and upon his return to his country, was charged with important negociations by Frederic II. Frederic III. employed him alſo. Canitz united the ſtateſman with the poet; and was converſant in many languages, dead

CANIS. Plate CXX.

Jackal-adive.

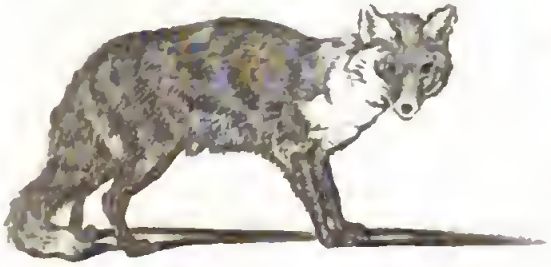
Zerda.

Ifatis.

Striped Hyæna.

Spotted Hyæna.

The Fox.



A. Bell Prin. Wal. Sculptor pinx.

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Canker ‖ Cannabis.

re well as living. His German poems were publiſhed for the tenth time, 1750, in 8vo. He is ſaid to have taken Horace for his model, and to have written purely and delicately. But he did not content himſelf with barely cultivating the fine arts in himſelf; he gave all the encouragement he could to them in others. He died at Berlio, in 1699, privy counſellor of ſtate, aged 45.

CANKER, a diſeaſe incident to trees, proceeding chiefly from the nature of the ſoil. It makes the bark rot and fall. If the canker be in a bough, cut it off; in a large bough, at ſome diſtance from the ſtem; in a ſmall one, cloſe to it: but for over-hot ſtrong ground, the ground is to be cooled about the roots with pond-mud and cow-dung.

Canker, among farriers. See Farriery, § aliv. 2.

CANNA, in botany: A genus of the monogynia order, belonging to the monandria claſs of plants; and in the natural method ranking under the eighth order, *Scitamineæ*. The corolla is erect, and divided into ſix parts, with a diſtinct lip bipartite and rolled back; the ſtyle lanceolate, and growing to the corolla; the calyx is triphyllous.

Species. 1. The indica, or common broad-leaved flowering cane, is a native of both Indies; the inhabitants of the Britiſh iſlands in America call it *Indian ſhot*, from the roundneſs and hardneſs of the ſeeds. It hath a thick, fleſhy, tuberous root, which divides into many irregular knobs; it ſends out many large oval leaves, without order. At their firſt appearance the leaves are like a twiſted horn; but afterwards expand, and are near a foot long, and five inches broad in the middle; leſſening gradually to both ends, and terminated in a point. The ſtalks are herbaceous, riſing four feet high, and are encompaſſed by the broad leafy foot-ſtalks of the leaves; at the upper part of the ſtalk the flowers are produced in looſe ſpikes, each being at firſt covered with a leafy hood, and turns to a brown colour. The flowers are ſucceeded by a fruit or capſule, oblong, rough, and crowned with the three-cornered empalement of the flower which remains. When the fruit is ripe, the capſule opens lengthwiſe into three cells, filled with round, ſhining, hard, and black ſeeds. 2. The latifolia, with a pale red flower, is a native of Carolina, and ſome other northern provinces of America. 3. The glauca, with a very large flower, is a native of South America. 4. The lutea, with ohtuſe oval leaves, is leſs common in America than the other ſorts. 5. The coccinea, hath larger leaves than any of the other ſpecies, and the ſtalks riſe much higher. The flowers are produced in large ſpikes; and are of a bright crimſon, or rather ſcarlet colour.

Culture. Theſe plants muſt always be kept in pots of rich earth, to be moved to ſhelter in winter. They are propagated by ſeeds ſown on a hot-bed, in the ſpring; and in ſummer, when the plants are a little advanced in growth, prick them ſeparately in ſmall pots of rich earth, plunging them alſo in the hot-bed, giving ſhade, water, and freſh air; to which laſt harden them by degrees, till they bear it fully. In October they muſt be removed into a very good ſtove or green houſe.

CANNABIS, in botany: A genus of the pentandria order, belonging to the dioecia claſs of plants; and in the natural method ranking under the 53d order, *Scabridæ*. The calyx of the male is quinquepartite, with no corolla. In the female the calyx is monophyllous, entire, and gaping at the ſide; there is no corolla, but two ſtyles; the fruit is a nut, bivalved, within the cloſed calyx. Of this there is but one ſpecies, viz. the ſativa. This is propagated in the rich ſenny parts of Lincolnſhire in great quantities, for its bark, which is uſeful for cordage, cloth, &c. and the ſeeds abound with oil. Hemp is always ſown on a deep, moiſt, rich, ſoil, ſuch as is found in Holland, Lincolnſhire, the fens of the iſland of Ely, where it is cultivated to great advantage, as it might be in many other parts of England where there is a ſoil of the ſame kind; but it will not thrive on clayey or ſtiff cold land. The ground on which hemp is deſigned to be ſown, ſhould be well ploughed, and made very fine by harrowing. About the middle of April the ſeed may be ſown; three buſhels is the uſual allowance for an acre, but two are ſufficient. In the choice of the ſeed, the heavieſt and brighteſt coloured ſhould be preferred; and particular care ſhould be had to the kernel of the ſeed. For the greater certainty in this matter, ſome of the ſeeds ſhould be cracked, to ſee whether they have the germ or future plant perfect: for, in ſome places, the male plants are drawn out too ſoon from the female, i. e. before they have impregnated the female plants with the farina; in which caſe, though the ſeeds produced by theſe females may ſeem fair to the eye, yet they will not grow*, according to the doctrine of Linnæus. When the plants are come up, they ſhould be hoed out in the ſame manner as is practiſed for turnips, leaving them two feet apart; obſerve alſo to cut down all the weeds, which, if well performed, and in dry weather, will deſtroy them. This crop, however, will require a ſecond hoeing, in about ſix weeks after the firſt; and, if this is well performed, the crop will require no further care. The firſt ſeaſon for pulling hemp is uſually about the middle of Auguſt, when they begin to pull what they call the *ſimble hemp*, being that which is compoſed of the male plants; but it would be the much better method to defer this for a fortnight or three weeks longer, until thoſe male plants have fully ſhed their farina or duſt, without which the ſeeds will prove only empty huſks. Theſe male plants decay ſoon after they have ſhed their farina. The ſecond pulling is a little after Michaelmas, when the ſeeds are ripe. This is uſually called *karle hemp*, and conſiſts of the female plants which were left. This karle hemp is bound in bundles of a yard compaſs, according to ſtatute meaſure, which are laid in the ſun for a few days to dry; and then it is ſtacked up, or houſed, to keep it dry till the ſeed can be threſhed out. An acre of hemp, on a rich ſoil, will produce near three quarters of ſeed, which, together with the unwrought hemp, is worth from ſix to eight pounds. Hemp is eſteemed very effectual for deſtroying weeds: but this it accompliſhes by impoveriſhing the ground, and thus robbing them of their nouriſhment; ſo that a crop of it muſt not be repeated on the ſame ſpot.

Cannabis.

* See Botany, § iii.

Some ſeeds of a large kind of hemp growing in China were lately ſent by the Eaſt India Company to the Society for the encouragement of Arts, Manufactures, and Commerce, who diſtributed them to the members and other gentlemen who appeared likely to cultivate them; and from experiments made in conſe-

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Cannabis, Cannæ.

quence, the plant has been found to ſucceed perfectly in this climate. The firſt trials were rather unpromiſing, the hemp produced from the foreign ſeeds proving of very little value. But the Reverend Dr Hinton of Northwold, who made the above trial in 1786, having accidentally ſaved ſome ripe ſeeds of that crop, ſowed them in May 1787 on a ſpot of good land. They came up well, and attained as much perfection as ordinary hemp. The produce, when dreſſed, weighed at the rate of 95 ſtone 7 pounds and 12 ounces per acre, (being above 30 ſtone more, he ſays, than the uſual crops of hemp in that neighbourhood); and at the rate of three buſhels two pecks and half a pint of ſeed per acre were ſaved. Dr Hinton ſuppoſes that the ſeeds brought from China failed principally, if not entirely, by having been two years old, at which age hempſeed ſeldom vegetates. Now that it is found to ripen with us, freſh ſeeds can always be obtained. It will yet, however, require a few years to determine whether this ſpecies will continue to retain its great ſize, or will degenerate and become the common hemp of Europe.

From the leaves of hemp pounded and boiled in water, the natives of the Eaſt Indies prepare an intoxicating liquor of which they are very fond. The plant, when freſh, has a rank narcotic ſmell; the water in which the ſtalks are ſoaked, in order to ſeparate the tough rind for mechanic uſes, is ſaid to be violently poiſonous, and to produce its effects almoſt as ſoon as drank. The ſeeds alſo have ſome ſmell of the herb, and their taſte is unctuous and ſweetiſh: they are recommended, boiled in milk, or triturated with water into an emulſion, againſt coughs, heat of urine, and the like. They are alſo ſaid to be uſeful in incontinence of urine, and for reſtraining venereal appetites; but experience does not warrant their having any virtues of that kind.

CANNÆ, (anc. geog.) a town of Apulia in the Adriatic, at the mouth of the river Aufidus, rendered famous by a terrible overthrow which the Romans here received from the Carthaginians under Hannibal. The Roman conſuls Æmilius Paulus and Terentius Varro, being authorized by the ſenate to quit the defenſive plan, and ſtake the fortunes of the republic on the chance of a battle, marched from Canuſium, and encamped a few miles eaſt, in two unequal diviſions, with the Aufidus between them. In this poſition they meant to wait for an opportunity of engaging to advantage; but Hannibal, whoſe critical ſituation in a deſolated country, without refuge or allies, could admit of no delay, found means to inflame the vanity of Varro by ſome trivial advantages in ſkirmiſhes between the light horſe. The Roman, elated with this ſucceſs, determined to bring matters to a ſpeedy concluſion; but, finding the ground on the ſouth ſide too confined for the operations of ſo large an army, croſſed the river; and Varro, reſting his right wing upon the Aufidus, drew out his forces in the plain. Hannibal, whoſe head quarters were at Cannæ, no ſooner perceived the enemy in motion, than he forded the water below, and marſhalled his troops in a line oppoſite to that of his adverſaries.

The Romans were vaſtly ſuperior in number to the Carthaginians; but the latter were ſuperior in cavalry. The army of the former, conſiſting of 87,000 men, was drawn up in the uſual manner; the *haſtati* in the firſt line, the *principes* in the ſecond, and the *triarii* in the third. The cavalry were poſted on the wings. On the right, the Roman knights flanked the legionaries; in the left, the cavalry of the allies covered their own infantry. The two conſuls commanded the two wings, Emilius the right, and Terentius the left; and the two proconſuls Servilius and Attilius the main body. On the other hand, Hannibal, whoſe army conſiſted of 40,000 foot and 10,000 horſe, placed his Gauliſh and Spaniſh cavalry in his left wing, to face the Roman knights; and the Numidian horſe in his right, over againſt the cavalry of the allies of Rome. As to his infantry, he divided the African battalions into two bodies; one of which he poſted near the Gauliſh and Spaniſh horſe, the other near the Numidian. Between theſe two bodies were placed on one ſide the Gauliſh, on the other the Spaniſh infantry, drawn up in ſuch a manner as to form an obtuſe angle projecting a conſiderable way beyond the two wings. Behind this line he drew up a ſecond which had no projection. Aſdrubal commanded the left wing; Maherbal the right; and Hannibal himſelf, with his brother Mago, the main body. He had alſo taken care to poſt himſelf in ſuch a manner that the wind *Vulturnus*, which riſes at certain ſtated times, ſhould blow directly in the faces of the Romans during the fight, and cover them with duſt. The onſet was begun by the light-armed infantry; the Romans diſcharging their javelins, and the *baleares* their ſtones, with pretty equal ſucceſs; nevertheleſs, the conſul Emilius was wounded. Then the Roman cavalry in the right wing advanced againſt the Gauliſh and Spaniſh in Hannibal's left. As they were ſhut in by the river Aufidus on one ſide, and by their infantry on the other, they did not fight, as uſual, by charging and wheeling off, and then returning to the charge; but continued fighting each man againſt his adverſary, till one of them was killed or retired. After they had made prodigious efforts on both ſides to overbear each other, they all on a ſudden diſmounted, and fought on foot with great fury. In this attack the Gauls and Spaniards ſoon prevailed; put the Romans to the rout; and, purſuing them along the river, ſtrewed the ground with their dead bodies, Aſdrubal giving no quarter. This action was ſcarce over, when the infantry on both ſides advanced. The Romans firſt fell upon the Spaniards and Gauls, who, as already obſerved, formed a kind of triangle projecting beyond the two wings. Theſe gave ground, and, purſuant to Hannibal's directions, ſunk into the void ſpace in their rear; by which means they inſenſibly brought the Romans into the centre of the African infantry, and then the fugitives rallying, attacked them in front, while the Africans charged them in both flanks. The Romans, being by this artful retreat drawn into the ſnare and ſurrounded, no longer kept their ranks, but formed ſeveral platoons in order to face every way. Emilius, who was on the right wing, ſeeing the danger of the main body, at the head of his legionaries acted the part both of a ſoldier and general, penetrating into the heart of the enemy's battalions, and cutting great numbers of them in pieces. All the Roman cavalry that were left, attended the brave conſul on foot; and, encouraged by his example, fought like men in deſpair. But, in the mean time, Aſdrubal, at the head of a detachment of Gauliſh and Spaniſh

Cannæ.

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Cannæ. Spaniſh infantry brought from the centre, attacked Æmilius's legionaries with ſuch fury, that they were forced to give ground and fly: the conſul being all covered with wounds, was at laſt killed by ſome of the enemy who did not know him. In the main body, the Romans, though inveſted on all ſides, continued to ſell their lives dear; fighting in platoons, and making a great ſlaughter of the enemy. But being at length overpowered, and diſheartened by the death of the two proconſuls Servilius and Attilius who headed them, they diſperſed and fled, ſome to the right, and others to the left, as they could find opportunity; but the Numidian horſe cut moſt of them in pieces: the whole plain was covered with heaps of dead bodies, inſomuch that Hannibal himſelf, thinking the butchery too terrible, ordered his men to put a ſtop to it.—There is a great diſagreement among authors as to the number of Romans killed and taken at the battle of Cannæ. According to Livy, the republic loſt 50,000 men, including the auxiliaries. According to Polybius, of 6000 Roman horſe, only 70 eſcaped to Venuſia with Terentius Varro and 300 of the auxiliary horſe. As to the infantry, that writer tells us, that 70,000 of the Roman foot died on the field of battle fighting like brave men; and that 13,000 were made priſoners. According to Dionyſius of Halicarnaſſus, of 6000 horſe, only 370 eſcaped the general ſlaughter, and of 80,000 foot, 3000 only were left. The moſt moderate computation makes the number of Romans killed to amount to 45,000. The ſcene of action is marked out to poſterity, by the name of *Pezzo di Sangue*, "Field of Blood."

Theſe plains have more than once, ſince the Punic war, afforded room for men to accompliſh their mutual deſtruction. Melo of Bari, after raiſing the ſtandard of revolt againſt the Greek emperors, and defeating their generals in ſeveral engagements, was at laſt routed here in 1019, by the Catapan Bolanus. Out of two hundred and fifty Norman adventurers, the flower of Melo's army, only ten eſcaped the ſlaughter of the day. In 1201, the archbiſhop of Palermo and his rebellious aſſociates, who had taken advantage of the nonage of Frederic of Swabia, were cut to pieces at Cannæ by Walter de Brienne, ſent by the pope to defend the young king's dominions.

The traces of the town of Cannæ are very faint, conſiſting of fragments of altars, cornices, gates, walls, vaults, and under-ground granaries. It was deſtroyed the year before the battle; but being rebuilt, became an epiſcopal ſee in the infancy of Chriſtianity. It was again ruined in the ſixth century, but ſeems to have ſubſiſted in an humble ſtate many ages later; for we read of its contending with Barletta for the territory, which till then had been enjoyed in common by them; and in 1284, Charles I. iſſued an edict for dividing the lands, to prevent all future litigation. The proſperity of the towns along the coaſt, which increaſed in wealth and population by embarkations for the Cruſadoes and by traffic, proved the annihilation of the great inland cities; and Cannæ was probably abandoned entirely before the end of the thirteenth century.

CANNEQUINS, in commerce, white cotton cloths brought from the Eaſt Indies. They are a proper commodity for trading on the coaſt of Guinea, particularly about the rivers Senega and Gambia. Theſe linens are folded ſquare-wiſe, and are about eight ells long.

Cannel Coal || Cannonade.

CANNEL Coal. See Ampelites.

CANNES, a town of France, in Provence, and in the viguerie of Graſſe, ſeated on the coaſt of the Mediterranean ſea, with a harbour and a caſtle. E. Long. 7. 7. N. Lat. 43. 34.

CANNIBAL, a modern term for an anthropophagus or man-eater, more eſpecially in the Weſt Indies. See Anthropophagi.

CANNON, a military engine for throwing balls, &c. by the help of Gunpowder.

The invention of braſs cannon is by Lancy aſcribed to J. Owen: he ſays, that they were firſt known in England in the year 1535; but yet acknowledges, that, in 1346, there were four pieces of cannon in the Engliſh army at the battle of Creſſy, and that theſe were the firſt that were known in France. And Mezeray relates, that king Edward, by five or ſix pieces of cannon, ſtruck terror into the French army, it being the firſt time they had ſeen any of theſe thundering machines; though others affirm that cannon were known alſo in France at the ſame time; but that the French king, in his hurry to attack the Engliſh, and in confidence of victory, left all his cannon behind him as uſeleſs incumbrances (See Artillery). The Germans carry the invention farther back, and attribute it to Albertus Magnus, a Dominican monk, about the year 1250. Voſſius rejects all theſe opinions, and finds cannon in China almoſt 1700 years ago. According to him, they were mounted by the emperor Kitey in the year of Chriſt 85. For further particulars of their hiſtory, &c. ſee Gun and Gunnery.

For the caſting of cannon, ſee Foundery. For their different parts, proportions, management, operation, and effects, ſee Gunnery.

Cannon, with letter-founders and printers, the name of the largeſt ſize of letters they uſe.

CANNONADE, the application of artillery to the purpoſes of war, or the direction of its efforts againſt ſome diſtant object intended to be ſeized or deſtroyed, as a ſhip, battery, or fortreſs. See Gunnery.

Since a large ſhip of war may be conſidered as a combination of floating batteries, it is evident that the efforts of her artillery muſt be greatly ſuperior to thoſe of a fortreſs on the ſea-coaſt; that is to ſay, in general; becauſe, on ſome particular occaſions, her ſituation may be extremely dangerous, and her cannonading ineffectual. Her ſuperiority conſiſts in ſeveral circumſtances, as the power of bringing her different batteries to converge to one point; of ſhifting the line of her attack ſo as to do the greateſt poſſible execution againſt the enemy, or to lie where ſhe will be the leaſt expoſed to his ſhot; and chiefly becauſe, by employing a much greater number of cannon againſt a fort than it can poſſibly return, the impreſſion of her artillery againſt ſtone-walls ſoon becomes deciſive and irreſiſtible. Beſides theſe advantages in the attack, ſhe is alſo greatly ſuperior in point of defence: becauſe the cannon-ſhot, paſſing with rapidity through her ſides, ſeldom do any execution out of the line of their flight, or occaſion much miſchief by their ſplinters; whereas they very ſoon ſhatter and deſtroy the faces of a parapet, and produce incredible havoc among the men by the fragments of the ſtones, &c. A ſhip may alſo retreat

Cannula ‖ Canoe.

treat when ſhe finds it too dangerous to remain longer expoſed to the enemy's fire, or when her own fire cannot produce the deſired effect. Finally, the fluctuating ſituation of a ſhip, and of the element on which ſhe reſts, renders the effects of bombs very uncertain, and altogether deſtroys the effect of the *ricochet*, or rolling and bounding ſhot, which is ſo pernicious and deſtructive in a fortreſs or land engagement. The chief inconveniency to which a ſhip is expoſed, on the contrary, is, that the low-laid cannon in a fort near the brink of the ſea, may ſtrike her repeatedly on or under the ſurface of the water, ſo as to ſink her before her cannonade can have any conſiderable efficacy.

CANNULA, in ſurgery, a tube made of different metals, principally of ſilver and lead, but ſometimes of iron.

They are introduced into hollow ulcers, in order to facilitate a diſcharge of pus or any other ſubſtance; or into wounds, either accidental or artificial, of the large cavities, as the thorax or abdomen: they are uſed in the operation of bronchotomy; and, by ſome, after cutting for the ſtone, as a drain for urine.

Other cannulas are uſed for introducing cauteries, either actual or potential, into hollow parts, in order to guard the parts adjacent to that to be cauterized, from injury. They are of various figures; ſome being oval, ſome round, and others crooked.

CANO, a kingdom of Africa, in Negroland, with a town of the ſame name. It is bounded by Zaara on the north, by the river Niger on the ſouth, the kingdom of Agades on the weſt, and that of Caſſina on the eaſt. Some of the inhabitants are herdſmen, and others till the ground and dwell in villages. It produces corn, rice, and cotton. Here are alſo many deſerts, and mountains covered with woods, in which are wild citrons and lemon trees. The walls and houſes of the town are made of clay, and the principal inhabitants are merchants. E. Long. 16. 18. N. Lat. 21. 5.

CANOAIA, a town of Italy, in the duchy of Milan, ſeated on the weſtern bank of Lago Maggiore, or the Greater Lake. E. Long. 8. 47. N. Lat. 45. 55.

CANOE, a ſort of Indian boat or veſſel, formed of the trunk of a tree hollowed, and ſometimes of ſeveral pieces of the bark put together.

Canoes are of various ſizes, according to the uſes for which they may be deſigned, or the countries wherein they are formed. The largeſt are made of the cotton tree; ſome of them will carry between 20 and 30 hogſheads of ſugar or molaſſes. Some are made to carry ſail: and for this purpoſe are ſteeped in water till they become pliant; after which their ſides are extended, and ſtrong beams placed between them, on which a deck is afterwards laid that ſerves to ſupport their ſides. The other ſorts very rarely carry ſail, unleſs when going before the wind: their ſails are made of a ſort of ſhort ſilk graſs or ruſhes. They are commonly rowed with paddles, which are pieces of light wood ſomewhat reſembling a corn-ſhovel; and, inſtead of rowing with it horizontally like an oar, they manage it perpendicularly. The ſmall canoes are very narrow, having only room for one perſon in breadth, and ſeven or eight lengthwiſe. The rowers, who are generally American ſavages, are very expert in managing their paddles uniformly, and in balancing the canoes with their bodies; which would be difficult for a ſtranger to do, how well accuſtomed ſoever to the conducting of European boats, becauſe the canoes are extremely light, and liable to be overturned. The American Indians, when they are under the neceſſity of landing to avoid a water-fall, or of croſſing the land from one river to another, carry their canoes on their heads, till they arrive at a place where they can launch them again. This is the general conſtruction of canoes, and method of managing them: but ſome nations have veſſels going under the name of canoes, which differ conſiderably from the above; as the inhabitants of Greenland, Hudſon's-bay, Otaheite, &c.

Canon.

CANON, a perſon who poſſeſſes a prebend, or revenue allotted for the performance of divine ſervice, in a cathedral, or collegiate church.

Canons are of no great antiquity: Paſchier obſerves, that the name canon was not known before Charlemagne; at leaſt the firſt we hear of are in Gregory de Tours, who mentions a college of canons inſtituted by Baldwin XVI. archbiſhop of that city, in the time of Clotharius I. The common opinion attributes the inſtitution of this order to Chrodegangus, biſhop of Metz, about the middle of the eighth century.

Originally canons were only prieſts, or inferior eccleſiaſtics, who lived in community; reſiding by the cathedral church, to aſſiſt the biſhop; depending entirely on his will; ſupported by the revenues of the biſhopric; and living in the ſame houſe, as his domeſtics, or counſellors, &c. They even inherited his moveables, till the year 817, when this was prohibited by the council of Aix-la-Chapelle, and a new rule ſubſtituted in the place of that which had been appointed by Chrodegangus, and which was obſerved for the moſt part in the weſt till the twelfth century. By degrees, theſe communities of prieſts, ſhaking off their dependence, formed ſeparate bodies; whereof the biſhops, however, were ſtill heads. In the tenth century, there were communities or congregations of the ſame kind, eſtabliſhed even in cities where there were no biſhops: theſe were called collegiates, as they uſed the terms congregation and college indifferently: the name chapter, now given to theſe bodies, being much more modern. Under the ſecond race of the French kings, the canonical, or collegiate life, had ſpread itſelf all over the country; and each cathedral had its chapter, diſtinct from the reſt of the clergy. They had the name canon from the Greek κανων, which ſignifies three different things; a rule, a penſion, or fixed revenue to live on, and a catalogue or matricula; all which are applicable to them.

In time, the canons freed themſelves from their rules, the obſervance relaxed, and, at length, they ceaſed to live in community: yet they ſtill formed bodies; pretending to other functions beſides the celebration of the common office in the church; yet aſſuming the rights of the reſt of the clergy; making themſelves as a neceſſary council of the biſhop; taking upon them the adminiſtration of a ſee during a vacancy, and the election of a biſhop to ſupply it. There are even ſome chapters exempt from the juriſdiction of the biſhop, and owning no head but their dean. After the example of cathedral chapters, collegiate ones alſo continued to form bodies, after they had abandoned living in community.

CANONS are of various kinds; as,

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Canon. *Cardinal* CANONS, which are thoſe attached, and, as the Latins call it, *incardinati* to a church, as a prieſt is to a pariſh.

Domicellary CANONS, were young canons, who, not being in orders, had no right in any particular chapters.

Expectative CANONS, were ſuch as, without having any revenue or prebend, had the title and dignities of canons, a voice in the chapter, and a place in the choir; till ſuch time as a prebend ſhould fall.

Foreign CANONS, were ſuch as did not officiate in the canonries to which they belonged. To theſe were oppoſed manſionary canons, or canons reſidentiary.

Lay or *Honorary* CANONS, are ſuch among the laity as have been admitted, out of honour and reſpect, into ſome chapter of canons.

Regular CANONS, are canons that ſtill live in community; and who, like religious, have, in proceſs of time, to the practice of their rules, added the ſolemn profeſſion of vows. They are called regulars, to diſtinguiſh them from thoſe ſecular canons who abandon living in community, and at the ſame time the obſervance of the canons made as the rule of the clergy, for the maintenance of the ancient diſcipline. The canons ſubſiſted in their ſimplicity till the eleventh, ſome ſay the twelfth century, when ſome of them, ſeparating from the community, took with them the name of canons, or acephalous prieſts, becauſe they declined to live in community with the biſhop; and thoſe who were left thenceforth acquired the denomination of canons regular, and adopted moſt of the profeſſions of the rule of St Auguſtine. This order of regular canons of St Auguſtine was brought into England by Adelwald, confeſſor to Henry I. who erected a priory at Noſtel in Yorkſhire; and obtained for them the church of Carliſle as an epiſcopal ſee, with the privilege of chooſing their own biſhop. They were ſingularly protected and encouraged by Henry I. who gave them the priory of Dunſtable in 1107, and by queen Maud, who, in the following year, gave them the priory of the Holy Trinity in London. It appears, that under the reign of Edward I. they had 53 priories.

Tertiary CANONS, thoſe who had only the third part of the revenues of the canonicate.

CANON, in an eccleſiaſtical ſenſe, is a law or rule, either of doctrine or diſcipline, enacted eſpecially by a council, and confirmed by the authority of the ſovereign.

Canons are properly deciſions of matters of religion; or regulations of the policy and diſcipline of a church, made by councils, either general, national, or provincial. Such are the canons of the council of Nice, or Trent, &c.

There have been various collections of the canons of the Eaſtern councils; but four principal ones, each ampler than the preceding. The firſt, according to Uſher, A. D. 380, containing only thoſe of the firſt œcumenical council, and the firſt provincial ones: they were but 164 in number. To theſe, Dionyſius Exiguus, in the year 520, added the 50 canons of the apoſtles, and thoſe of the other general councils. The Greek canons in this ſecond collection end with thoſe of the council of Chalcedon; to which are ſubjoined thoſe of the council of Sardica, and the African councils. The fourth and laſt collection comes down as low as the ſecond council of Nice; and it is on this that Balſamon and Zonaras have commented. Canon.

Apoſtolical CANONS, are thoſe which have been uſually aſcribed to St Clement. Bellarmin, Baronius, &c. will have them to be genuine canons of the apoſtles: Cotelerius obſerves, that they cannot be aſcribed to the apoſtles or Clement, becauſe they are not received with other books of ſcripture, are not quoted by the writers of the firſt ages, and contain many things not agreeable to the apoſtolical times: Hincmar, De Marca, Beveridge, &c. take them to be framed by the biſhops who were the apoſtles diſciples in the ſecond or third century; S. Baſnage is of opinion, that they were collected by an anonymous writer in the fifth century; but Daille, &c. maintain them to have been forged by ſome heretic in the ſixth century; and S. Baſnage conjectures, that ſome of them are ancient, and others not older than the ſeventh century. The Greek church allow only 85 of them, and the Latins only 50; though there are 84 in the edition given of them in the Corpus Juris Canonici.

CANON is alſo uſed for the authoriſed catalogue of the ſacred writings. See BIBLE.

The ancient canon, or catalogue of the books of the Old Teſtament, was made by the Jews, and is ordinarily attributed to Ezra; who is ſaid to have diſtributed them into the law, the prophets, and the hagiographa, to which our Saviour refers, Luke, chap. xxiv. ver. 44. The ſame diviſion is alſo mentioned by Joſephus, cont. Appion.

This is the canon allowed to have been followed by the primitive church, till the council of Carthage; and, according to St Jerom, this conſiſted of no more than 22 books; anſwering to the number of the Hebrew alphabet; though at preſent they are claſſed into 24 diviſions, containing Geneſis, Exodus, Leviticus, Numbers, Deuteronomy, Joſhua, Judges, Samuel, Kings, Iſaiah, Jeremiah, Ezekiel, the twelve minor prophets, the Pſalms, the Proverbs, Job, Canticles, Ruth, Lamentations, Eccleſiaſtes, Eſther, Daniel, Ezra, comprehending the book of Nehemiah and the Chronicles. However, this order is not univerſally obſerved either among Jews or Chriſtians: nor were all the books above enumerated admitted into the canon in Ezra's time. It is moſt likely, ſays Dr Prydeaux, that the two books of Chronicles, Ezra, Nehemiah, Eſther, and Malachi, were added in the time of Simon the Juſt, when the canon was completed. But that council enlarged the canon very conſiderably, taking into it the books which we call apocryphal; which the council of Trent has further enforced, enjoining all theſe to be received as books of Holy Scripture, upon pain of anathema, and being attainted of herefy. The Romaniſts, in defence of this canon, ſay, that it is the ſame with that of the council of Hippo, held in 393; and with that of the third council of Carthage, in 397, at which were preſent 46 biſhops, and, among the reſt, St Auguſtine; who declared that they received it from their fathers.

Their canon of the New Teſtament perfectly agrees with ours. It conſiſts of books that are well known; ſome of which have been univerſally acknowledged; ſuch are the four Goſpels, the Acts of the Apoſtles, thirteen Epiſtles of St Paul, one Epiſtle of St Peter, and

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Canon. and one Epiſtle of St John: and others, concerning which doubts were entertained, but which were afterwards received as genuine; ſuch are the epiſtle to the Hebrews, that of James, the ſecond of Peter, the ſecond and third of John, that of Jude, and the Revelation. Theſe books were written at different times, and they are authenticated, not by the decrees of councils, or infallible authority, but by ſuch kind of evidence as is thought ſufficient in the caſe of any other ancient writings. They were very extenſively diffuſed; they were read in every Chriſtian ſociety; they were valued and preſerved with care by the firſt Chriſtians; they were cited by Chriſtian writers of the ſecond, third, and fourth century, as by Irenæus, Clement the Alexandrian, Tertullian, Origen, Euſebius, &c. and their genuineneſs is proved by the teſtimony of thoſe who were contemporary with the apoſtles themſelves, and by tradition. The four Goſpels, and moſt of the other books of the New Teſtament, were collected either by one of the apoſtles, or ſome of their diſciples and ſucceſſors, before the end of the firſt century. The catalogue of canonical books furniſhed by the more ancient Chriſtian writers, as Origen about the year 210, Euſebius and Athanaſius in 315. Epiphanius in 370, Jerome in 382, Auſtin in 394, and many others, agrees with that which is now received among Chriſtians. For the time of writing the ſeveral books of the New Teſtament, ſee the titles of the books themſelves; as the Goſpel of St Matthew, Mark, &c.

Some of the fathers diſtinguiſh the inſpired writings into three claſſes; proto-canonical, deutero-canonical, and apocryphal.

Paſchal Canon, a table of the moveable feaſts, ſhowing the day of Eaſter, and the other feaſts depending on it, for a cycle of 19 years.

The paſchal canon is ſuppoſed to be the calculation of Euſebius of Cæſarea, and to have been done by order of the council of Nice.

Canon, in monaſtic orders, a book wherein the religious of every convent have a fair tranſcript of the rules of their order, frequently read among them as their local ſtatutes. This is alſo called *regula*, as containing the rule and inſtitution of their order.

The canon differs from the miſſale, martyrologium, and necrologium.

Canon, again, is uſed for the catalogue of ſaints acknowledged and canonized in the Roman church.

Canon is alſo uſed, by way of excellence, in the Romiſh church, for the ſecret words of the maſs, from the preface to the *Pater*; in the middle of which the prieſt conſecrates the hoſt. The common opinion is, that the canon of the maſs commences with *Te igitur*, &c. The people are to be on their knees, hearing the canon; and are to rehearſe it to themſelves, ſo as not to be heard.

Canon, in the ancient muſic, is a rule or method of determining the intervals of notes.

Ptolemy, rejecting the Ariſtoxenian way of meaſuring the intervals in muſic, by the magnitude of a tone (which was ſuppoſed to be formed by the difference between a diapente and a diateſſaron), thought that muſical intervals ſhould be diſtinguiſhed, according to the ratios or proportions which the ſounds terminating thoſe intervals bear to one another, when conſidered according to their degree of acuteneſs or gravity; Canon. which, before Ariſtoxenus, was the old Pythagorean way. He therefore made the diapaſon conſiſt in a double ratio; the diapente, in a ſeſquialterate; the diateſſaron, in a ſeſquitertian; and the tone itſelf, in a ſeſquioctave; and all the other intervals, according to the proportion of the ſounds that terminate them: wherefore taking the canon (as it is called) for a determinate line of any length, he ſhows how this canon is to be cut accordingly, ſo that it may repreſent the reſpective intervals: and this method anſwers exactly to experiment, in the different lengths of muſical chords. From this canon, Ptolemy and his followers have been called *Canonici*; as thoſe of Ariſtoxenus were called *Muſici*.

Canon, in modern muſic, is a kind of fugue, which they call a *perpetual fugue*, becauſe the different parts beginning one after another, repeat inceſſantly the ſame air.

Formerly, ſays Zarlino, they placed, at the head of perpetual fugues, particular directions which ſhowed how this kind of fugues was to be ſung; and theſe directions being properly the rules by which perpetual fugues were compoſed were called *canoni*, *rules*, or *canons*. From this cuſtom, others taking the title for the thing ſignified, by a metonimy, termed this kind of compoſition *canon*. Such canons as are compoſed with the greateſt facility, and of conſequence moſt generally uſed, begin the fugue either with the octave or the uniſon; that is to ſay, that every part repeats in the ſame tone the melody of the preceding. In order to form a canon of this kind, it is only neceſſary for the compoſer to make an air according to his taſte; to add in ſcore as many parts as he chooſes, where the voices in octave or uniſon repeat the ſame melody; then forming a ſingle air from all theſe parts ſucceſſively executed, to try whether this ſucceſſion may form an entire piece which will give pleaſure, as well in the harmony as the melody.

In order to execute ſuch a *canon*, he who ſings the firſt part begins alone, and continues till the air is finiſhed; then recommences immediately, without any ſuſpence of ſound or interruption of time: as ſoon as he has ended the firſt couplet, which ought to ſerve for the perpetual ſubject upon which the whole *canon* has been compoſed, the ſecond part begins and repeats the ſame couplet, whilſt the firſt who had begun purſues the ſecond: others in ſucceſſion begin, and proceed the ſame way, as ſoon as he who precedes has reached the end of the firſt couplet. Thus, by inceſſantly recommencing, an univerſal cloſe can never be found, and the *canon* may be repeated as long as the ſingers pleaſe.

A perpetual fugue may likewiſe conſiſt of parts which begin with the intervals of a fourth or fifth; or, in other words, every part may repeat the melody of the firſt, a fourth or a fifth higher or lower. It is then neceſſary that the whole *canon* ſhould be invented *di prima intenzione*, as the Italians ſay; and that ſharps or flats ſhould be added to the notes, whoſe natural gradations do not anſwer exactly, by a fourth or fifth, to the melody of the preceding part, and produce the ſame intervals with itſelf. Here the compoſer cannot pay the leaſt regard to modulation; his only care is, that the melody may be the ſame, which renders the formation

Canon. of a *canon* more difficult; for at every time when any part reſumes the fugue, it takes a new key; it changes the tone almoſt at every note, and what is ſtill wurſe, no part is at the ſame time found in the ſame tone with another; hence it is that this kind of *canons*, in other reſpects far from being eaſy to be purſued, never produces a pleaſing effect, however good the harmony may be, and however properly it may be ſung.

There is a third kind of *canon*, but very ſcarce, as well becauſe it is extremely difficult, as becauſe it is for the moſt part incapable uf giviog pleaſure, and can boaſt ao other merit but the pains which have been thrown away in its compoſition. This may be called a *double canon inverted*, as well hy the inverſiuns which are practiſed in it with reſpect to the melody of the parts, as by thoſe which are found among the parts themſelves, in ſinging. There is ſuch an artifice in this kind of *canon*, that, whether the parts be ſung in their natural order, or whether the paper in which they are ſet be turned the contrary way, to ſing them backward from the end to the heginning, in ſuch a manner that the baſs becomes the upper part, and the reſt undergo a ſimilar change, ſtill you have pretty harmony, and ſtill a regular *canon*. The reader may conſult Rouſſeau's Dictionary in this article, where he is referred to plate D fig. tt. for two examples of canons of this ſort extracted from Bontempi, who likewiſe gives rules for their compoſition. But he adds, that the true principle from which this rule is deduced will be found at the word *Syſteme*, in his accouot of the ſyſtem of Tartini, to which we muſt likewiſe ouce mure refer the reader; as a quotation of ſuch length muſt have protracted our article to an enormuus extent.

To form a *canon* in which the harmony may be a little varied, it is neceſſary that the parts ſhould not follow each other in a ſucceſſion too rapid, and that the one ſhuuld only begin a conſiderable time after the other. When they follow oue another ſo immediately as at the diſtance of a ſemibreve or a minim, the duration is not ſufficient to admit a great number of chords, and the canon muſt of neceſſity exhibit a diſagreeable monotony; hut it is a method of compoſing, without much difficulty, a canon in as maoy parts as the compoſer chooſes. For a *canon* of four bars only, will conſiſt of eight parts if they follow each other at the diſtance of half a har; and hy each bar which is added, two parts will conſtaotly he gained.

The emperor Charles VI. who was a great muſician, and compoſed extremely well, took much pleaſure in compoſing and ſinging *canons*. Italy is ſtill replete with moſt beautiful *canons* compoſed ſur this prince, by the beſt maſters in that country. To what has been ſaid hy Rouſſeau, we need only ſubjoin, that the Engliſh *catch* and the Italian *canon* are much the ſame; as any intelligent reader may perceive, frum comparing the ſtructure and execution of the Engliſh *catch* with the account of *canons* which has now been given.

Canon, in geometry and algehra, a general rule for the ſolution of all caſes of a like nature with the preſent ioquiry. Thus every laſt ſtep of an equation is a canon; and, if turned into words, beeomes a rule to ſolve all queſtiuns of the ſame nature with that propoſed.

Canon-Law, a collection of eccleſiaſtical laws, ſerving as the rule and meaſure of church-government.

The power of making laws was exerciſed by the church before the Roman empire became Chriſtian. The canon-law that obtained throughout the Weſt, till the 12th century, was the collection of canons made hy Dionyſius Exiguus io 520, the capitularies of Charlemagne, and the decrees of the popes from Sircius to Anaſtaſius. Canon Canonica.

The canon-law, even when papal authority was at its height in England, was of no force when it was found to contradict the prerogative of the king, the laws, ſtatutes, and cuſtoms of the realm, or the doctrine of the eſtabliſhed church.

The eccleſiaſtical juriſdiction of the ſee of Rome in England was founded on the canon-law; and this created quarrels between kings and ſeveral archbiſhops and prelates who adhered to the papal uſurpation.

Beſides the foreign canons, there were ſeveral laws and conſtitutions made here for the government of the church: but all theſe received their force from the royal aſſent; and if, at any time, the eccleſiaſtical courts did, hy their ſentence, endeavour to enforce obedience to ſuch canons, the courts at common law, upon complaints made, would grant prohibitioo. The authority veſted in the church of England of making canons, was aſcertained by a ſtatute of Henry VIII. commonly called the *act of the clergy's ſubmiſſion*; hy which they acknowledged, that the convocation had always been aſſembled by the king's writ; ſo that though the power of making canons reſided in the clergy met in convocation, their force was derived from the authority of the king's aſſenting to and confirming them.

The old canons continued in full force till the reign of James I. when the clergy being aſſembled in convocation, the king gave them leave to treat and conſult upon canons; which they did, and preſented them to the king, who gave them the royal aſſent: theſe were a collection out of the ſeveral preceding canons and injunctions. Some of theſe canons are now ohſolete. In the reign of Charles I. ſeveral canons were paſſed hy the clergy in convocation.

CANONESS, in the Romiſh church, a woman who enjoys a prehend, affixed, hy the foundatiun, to maids, without their being obliged to renounce the world or make any vows.

CANONICA, in philoſophical hiſtory, an appellatiuo given hy Epicurus to his doctrine of logie. It was called *canonica*, as conſiſting of a few canons or rules for directing the underſtanding in the purſuit and knowledge of truth. Epicurus's *canonica* is repreſented as a very ſlight and inſufficient logic by ſeveral of the ancients, who put a great value on his ethics and phyſics. Laertius even aſſures us, that the Epicureans rejected logic as a ſuperfluous ſcience; and Plutarch complains that Epicurus made an unſkilful and preposterous uſe of ſyllogiſms. But theſe cenſures ſeem too ſevere. Epicurus was not averſe to the ſtudy of logic, but even gave better rules in this art than thoſe philoſophers who aimed at no glory hut that of logics. He only ſeems to have rejected the dialectics of the ſtoics, as full of vain ſubtleties and deceits, and fitted rather for parade and diſputation than real uſe. The ſtreſs of Epicurus's *canonica* conſiſts in his doctrine of the criteria of truth. All queſtions in philoſophy are either concerning words or things: concerning things,

we

Canonical. we ſeek their truth; concerning words, their ſignification: things are either natural or moral; and the former are either perceived by ſenſe or by the underſtanding. Hence, according to Epicurus, ariſe three criterions of truth, *viz.* ſenſe, anticipation or prænotion, and paſſion. The great canon or principle of Epicurus's logic is, that the ſenſes are never deceived; and therefore, that every ſenſation or perception of an appearance is true.

CANONICAL, ſomething that belongs to, or partakes of, the nature of a rule or canon.

Canonical Hours, are certain ſtated times of the day, conſigned, more eſpecially by the Romiſh church, to the offices of prayer and devotion. Such are *matins*, *lauds*, *ſixth*, *ninth*, *veſpers*. In our country the canonical hours are from eight to twelve in the forenoon, before or after which marriage cannot be legally performed in any pariſh-church.

Canonical Obedience, is that ſubmiſſion which, by the eccleſiaſtical laws, the inferior clergy are to pay to their biſhops, and religious to their ſuperiors.

Canonical Sins, in the ancient church, thoſe which were capital or mortal. Such eſpecially were idolatry, murder, adultery, hereſy, and ſchiſm.

Canonical Puniſhments, are thoſe which the church may inflict; ſuch as excommunication, degradation, and penance, in Roman Catholic countries, alſo faſting, alms, whipping, &c.

Canonical Life, the method or rule of living preſcribed by the ancient clergy who lived in community. The canonical life was a kind of medium between the monaſtic and clerical lives. Originally the orders of monks and clerks were entirely diſtinct; but pious perſons, in proceſs of time, inſtituted colleges of prieſts and canons, where clerks brought up for the miniſtry, as well as others already engaged therein, might live under a fixed rule, which, though ſomewhat more eaſy than the monaſtic, was yet more reſtrained than the ſecular. This was called the *canonical life*, and thoſe who embraced it *canons*.—Authors are divided about the founder of the canonical life. Some will have it to be founded by the apoſtles; others aſcribe it to pope Urban I. about the year 1230, who is ſaid to have ordered biſhops to provide ſuch of their clergy as were willing to live in community, with neceſſaries out of the revenues of their churches. The generality attribute it to St Auguſtin; who, having gathered a number of clerks to devote themſelves to religion, inſtituted a monaſtery within his epiſcopal palace, where he lived in community with them. Onuphrius Panvinius brings the inſtitution ſomewhat lower; according to him, pope Gelaſius I. about the year 495, placed the firſt regular canons of St Auguſtin in the Lateran church.

Canonical Letters, in the ancient church, were a ſort of teſtimonials of the orthodox faith, which the biſhops and clergy ſent each other to keep up the catholic communion, and diſtinguiſh orthodox Chriſtians from Arians and other heretics. They were denominated *canonical*, either as being compoſed according to a certain rule or form, or becauſe they were given to the *canonici*, that is, thoſe comprehended in the canon or catalogue of their church. When they had occaſion to travel into other dioceſes or countries, dimiſſory and recommendatory letters, alſo letters of peace, &c. were ſo many ſpecies of canonical letters. Canonical ‖ Canonry.

CANONICAL is alſo an appellation given to thoſe epiſtles in the New Teſtament more frequently called *catholic* or *general* epiſtles.

CANONICUM, in a general ſenſe, denotes a tax or tribute.

CANONICUM is more particularly uſed in the Greek church for a fee paid by the clergy to biſhops, archbiſhops, and metropolitans, for degrees and promotions.

CANONICUM alſo denotes a due of firſt-fruits, paid by the Greek laity to their biſhops, or, according to Du-Cange, to their prieſts. The *canonicum* is aſſeſſed according to the number of houſes or chimnies in a place.

The emperor Iſaac Comnenus made a conſtitution for regulating the *canonicum* of biſhops, which was confirmed by another made in 1086, by his nephew Alexis Comnenus. A village containing thirty fires, was to pay for its *canonicum* one piece of gold, two of ſilver, one ſheep, ſix buſhels of barley, ſix of wheat flour, ſix meaſures of wine, and thirty hens.

CANONIST, a perſon ſkilled in or who makes profeſſion of the ſtudy and practice of the canon law. Canoniſts and civilians are uſually combined in the ſame perſons: and hence the title of *doctor juris utriuſque*, or *legum doctor*, uſually expreſſed in abbreviature, L. L. D. or J. U. D.

CANONIZATION, a ceremony in the Romiſh church, by which perſons deceaſed are ranked in the catalogue of the ſaints. It ſucceeds beatification.

Before a beatified perſon is canonized, the qualifications of the candidate are ſtrictly examined into, in ſome conſiſtories held for that purpoſe; after which, one of the conſiſtorial advocates, in the preſence of the pope and cardinals, makes the panegyric of the perſon who is to be proclaimed a ſaint, and gives a particular detail of his life and miracles: which done, the holy father decrees his canonization, and appoints the day.

On the day of canonization the pope officiates in white, and their eminences are dreſt in the ſame colour. St Peter's church is hung with rich tapeſtry, upon which the arms of the pope, and of the prince or ſtate requiring the canonization, are embroidered in gold and ſilver. An infinite number of lights blaze all round the church, which is crowded with pious ſouls, who wait with devout impatience till the new ſaint has made his public entry as it were into paradiſe, that they may offer up their petitions to him without danger of being rejected.

The following maxim with regard to canonization is now obſerved, though it has not been followed above a century, *viz.* not to enter into the inquiries prior to canonization, till 50 years, at leaſt, after the death of the perſon to be canonized. By the ceremony of canonization, it appears that this rite of the modern Romans has ſomething in it very like the apotheoſis or deification of the ancient Romans, and, in all probability, takes its riſe from it; at leaſt ſeveral ceremonies of the ſame nature are conſpicuous in both.

CANONRY, the benefice filled by a canon. It differs from a prebend, in that the prebend may ſubſiſt without

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Canopus, Canoſa.

without the canonicate: whereas the canonicate is inſeparable from the prebend: again, the rights of ſuffrages, and other privileges, are annexed to the canonicate, and not to the prebend.

CANOPUS, in aſtronomy, a ſtar of the firſt magnitude in the rudder of Argo, a conſtellation of the ſouthern hemiſphere.

Canopus, in Pagan mythology, one of the deities of the ancient Egyptians, and, according to ſome, the god of water. It is ſaid, that the Chaldeans, who worſhipped fire, carried their fancied deity thro' other countries to try its power, in order that, if it obtained the victory over the other gods, it might be acknowledged as the true object of worſhip; and it having eaſily ſubdued the gods of wood, ſtone, braſs, ſilver, and gold, its prieſts declared, that all gods did it homage. This the prieſts of Canopus hearing, and finding that the Chaldeans had brought their god to contend with Canopus, they took a large earthen veſſel, in which they bored ſeveral holes, which they afterwards ſtopped with wax, and having filled the veſſel with water, painted it of ſeveral colours, and fitting the head of an idol to it, brought it out, in order to contend with the Chaldean deity. The Chaldeans accordingly kindled their fire all around it; but the heat having melted the wax, the water guſhed out thro' the holes, and extinguiſhed the fire; and thus Canopus conquered the god of the Chaldeans.

Canopus, or *Canobus*, according to Strabo, had been Menelaus's pilot, and had a temple erected to him in a town called *Canopus*, near one of the mouths of the Nile. Dionyſius mentions it:

> Και τεμενος ευεργετου Αμυκλαι ος Καναβος.
> There ſtands Canobus' temple known to fame;
> The pilot who from fair Amycla came.

Voſſius remarks, on this occaſion, the vanity of the Greeks, who, as he conjectures, hearing of an Egyptian deity named *Canopus*, took from thence an opportunity of deifying the pilot of Menelaus who bore the ſame name, and giving out that the Egyptian god Canopus had been a Greek. F. Monfaucon gives ſeveral repreſentations of this deity. One, in alluſion to the victory above mentioned, throws out water on every ſide through little holes.

Canopus, or *Canobus*, (anc. geog.) a town of the Lower Egypt, on the Mediterranean, an hundred and twenty ſtadia, or fifteen miles to the eaſt of Alexandria: as old as the war of Troy, Canopus, or Canobus, Menelaus's ſteerſman, being there buried. *Canopari*, the gentilitious name: famous for their luxury and debauchery, (Strabo, Juvenal.) See Aaouxir.

CANOPY, in architecture and ſculpture, a magnificent kind of decoration, ſerving to cover and crown an altar, throne, tribunal, pulpit, chair, or the like. The word is formed from the barbarous Latin *canopeum*, of κωνωπειον, *a net ſpread over a bed to keep off the gnats*, from κωνωψ *a gnat*.

Canopies are alſo borne over the head in proceſſions of ſtate, after the manner of umbrellas. The canopy of an altar is more peculiarly called *Ciborium*.

The Roman grandees had their canopies, or ſpread veils, called *thenſæ*, over their chairs: the like were alſo in temples over the ſtatues of the gods. The modern cardinals ſtill retain the uſe of canopies.

CANOSA, a town of Puglia in Italy, occupying part of the ſite of the ancient Cannſium. The old city was founded by Diomede, according to Strabo. It afterwards became a Roman colony, and one of the moſt conſiderable cities of this part of Italy for extent, population, and magnificence in building. The æra of Trajan ſeems to have been that of its greateſt ſplendour; but this pomp only ſerved to mark it as a capital object for the avarice and fury of the Barbarians. Genſeric, Totila, and Autharis, treated it with extreme cruelty. The deplorable ſtate to which this province was reduced in 590 is concifely but ſtrongly painted by Gregory the Great, in theſe terms: "On "every ſide we hear groans! on every ſide we behold "crowds of mourners, cities burnt, caſtles raſed to the "ground, countries laid waſte, provinces become de"ſerts, ſome citizens led away captives, and others in"humanly maſſacred." No town in Puglia ſuffered more than Canoſa from the outrages of the Saracens; the conteſts between the Greeks and Normans increaſed the meaſure of its woes, which was filled by a conflagration that happened when it was ſtormed by duke Robert. In 1090, it was aſſigned, by agreement, to Bohemund prince of Antioch, who died here in 1111. Under the reign of Ferdinand the Third, this eſtate belonged to the Grimaldis. On their forfeiture, the Affaititi acquired it, and ſtill retain the title of marquis, though the Capeci are the proprietors of the fief.

Canoſa ll Cant.

Swinburn's Travels in Sicily, page 408.

The ancient city ſtood in a plain between the hills and the river Ofanto, and covered a large tract of ground. Many brick monuments, though degraded and ſtripped of their marble caſing, ſtill atteſt its ancient grandeur. Among them may be traced the fragments of aqueducts, tombs, amphitheatre baths, military columns, and two triumphal arches, which, by their poſition, ſeem to have been two city gates. The preſent town ſtands above, on the foundations of the old citadel, and is a moſt pitiful remnant of ſo great a city, not containing above three hundred houſes. The church of St Sabinus, built, as is ſaid, in the ſixth century, is now without the incloſure. It is aſtoniſhing, that any part of this ancient cathedral ſhould have withſtood ſo many calamities. Its altars and pavements are rich in marbles; and in a ſmall court adjoining, under an octagonal cupola, is the mauſoleum of Bohemund, adorned in a minute Gothic ſtyle.

CANSO, a ſea-port town of Acadia, or Nova Scotia, in North America, ſeated on a narrow ſtrait which ſeparates Nova Scotia from Cape Breton. Near this town is a fine fiſhery for cod. W. Long. 62. N. Lat. 46.

CANSTAT, a town of Swabia, in Germany, in the duchy of Wirtemberg, ſituated on the river Neckar, in E. Long. 9. 9. N. Lat. 48. 51.

CANT, a quaint affected manner of ſpeaking, adapted chiefly to the lower ſort. Skinner racks his invention for the origin of this word; which he ſucceſſively deduces from the German, Flemiſh, and Saxon tongues. According to the general opinion, Cant is originally the proper name of a Cameronian preacher in Scotland, who by exerciſe had obtained the faculty of talking in the pulpit in ſuch a tone and dialect as was underſtood by none but his own congregation: ſince Andrew Cant's time, the word has been extended to ſignify all ſudden exclamations, and whining unmuſical tones, eſpecially in praying and preaching. But this

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Can, Cantabria.

origin of the word has been disputed by others; and perhaps the true derivation is from the Latin *cantare* "to sing."

CANT is also applied to words and phrases affected by particular persons or professions for low ends, and not authorised by the established language *. The difference between *cant* and *technical* seems to be this: the former is restrained to words introduced out of folly, affectation, or imposture; the latter is applied to such as are introduced for the sake of clearness, precision, and significancy.

* See *Canting Language.*

CANT is also used to denote a sale by auction. The origin of the word in this sense is dubious; it may come, according to some, from *quantum*, how much; according to others, from *cantare*, to sing or cry aloud; agreeably to which, we sometimes also call it an *outcry*.

Cant-Timbers, in ship-building, those timbers which are situated at the two ends of a ship. They derive their name from being *canted*, or raised obliquely from the keel; in contradistinction from those whose places are perpendicular to it. The upper ends of those on the bow, or fore-part of the ship, are inclined to the stern; as those in the after, or hind part, incline to the stern-post above. See *Ship-Building*.

CANTABRIA, (anc. geog.), a district of Terraconensis, on the Oceanus Cantabricus or bay of Biscay; now BISCAY. The inhabitants were famous for their warlike character. In conjunction with the Asturians †, they carried on desperate wars with the Romans; but were subdued by them about 25 years before Christ. Being impatient, however, of a foreign yoke, they in a few years revolted. Most of their youth had been already taken prisoners by the Romans, and sold for slaves to the neighbouring nations: but having found means to break their chains, they cut the throats of their masters; and returning into their own country, attacked the Roman garrisons with incredible fury. Agrippa marched against them with great expedition; but, on his arrival, met with so vigorous a resistance, that his soldiers began to despair of ever being able to reduce them. As the Cantabrians had waged war with the Romans for upwards of 200 years, they were well acquainted with their manner of fighting, no way inferior to them in courage, and were now become desperate; well knowing, that if they were conquered, after having so often attempted to recover their liberty, they must expect the most severe usage, and cruel slavery. Animated with this reflection, they fell upon the Romans with a fury hardly to be expressed, routed them in several engagements, and defended themselves when attacked by the enemy with such intrepidity, that Agrippa afterwards owned, that he had never, either by sea or land, been engaged in a more dangerous enterprize. That brave commander was obliged to use intreaties, menaces, and to brand some of his legionaries with ignominy, before he could bring them to enter the lists with such a formidable enemy. But having at last, with much ado, prevailed upon them to try the chance of an engagement in the open field, he so animated them by his example, that, after a most obstinate dispute, he gained a complete victory, which indeed cost him dear, but put an end to that destructive war. All the Cantabrians fit to bear arms were cut in pieces; their castles and strong holds taken and razed; and their women, children, and old men (none else being left alive), were obliged to abandon the mountainous places, and settle in the plain.

† See *Asturia.*

Cantabria ‖ Cantacuzenus.

Dr Wallis seems to make the Cantabrian the ancient language of all Spain: which, according to him, like the Gaulish, gave way to a kind of broken Latin called *romance*, or *romanse*; which by degrees was refined into the Castilian or present Spanish. But we can hardly suppose, that so large a country, inhabited by such a variety of people, spoke all the same language. The ancient Cantabrian, in effect, is still found to subsist in the more barren and mountainous parts of the province of Biscay, Asturias, and Navarre, as far as Bayonne, much as the British does in Wales; but the people only talk it: for writing, they use either the Spanish or French, as they happen to live under the one or the other nation. Some attribute this to a jealousy of foreigners learning the mysteries of their language; others to a poverty of words and expressions. The Cantabrian does not appear to have any affinity with any other known language, abating that some Spanish words have been adopted in it for things whose use the Biscayens were anciently unacquainted with. Its pronunciation is not disagreeable. The Lord's prayer, in the Cantabarian tongue, runs thus: *Gure aita cervetan aicena, santifica bedi hire icena, ethor bedi hire resuma, eguin bedi hire voroudatea cervan becala lurrean ere*, &c.

CANTABRICA, in botany: A synonime of a species of CONVOLVULUS.

CANTABRUM, in antiquity, a large kind of flag used by the Roman emperors, distinguished by its peculiar colour, and bearing on it some words or motto of good omen, to encourage the soldiers.

CANTACUZENUS (Johannes), of Constantinople, a celebrated statesman, general, and historian, was born in that city, of a very ancient and noble family. He was bred to letters and to arms, and admitted to the highest offices of the state. The emperor Andronicus loaded him with wealth and honour; made him generalissimo of his forces; and was desirous of having him join him in the government, but this he refused. Andronicus dying in 1341, left to Cantacuzenus the care of the empire, till his son John Paleologus, who was then but nine years of age, should be fit to take it upon himself. This trust he faithfully discharged; till the empress dowager and her faction forming a party against him, declared him a traitor. On this the principal nobility and the army besought him to ascend the throne; and accordingly he was crowned on the 21st of May 1342. This was followed by a civil war, which lasted five years; when he admitted John a partner with him in the empire, and their union was confirmed by his giving him his daughter in marriage. Suspicions and enmities, however, soon arising, the war broke out again, and continued till John took Constantinople in 1355. A few days after, Cantacuzenus, unwilling to continue the effusion of blood, abdicated his share of the empire, and retiring to a monastery, took the habit of a monk, and the name of *Joasaphas*. His wife also retired to a nunnery, and changed her name of *Irene* for that of *Eugenia*. In this retirement he lived till the year 1411, when he was upwards of 100 years of age. Here he wrote a history of his own times, a Latin translation of which, from the Greek manuscript, was pub-

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Cantalivers || Cantemir

published by Pontanus at Ingolſtadt, in 1603: and a ſplendid edition was printed at Paris in 1645, in three volumes folio, of the original Greek, and Pontanus's Latin verſion. He alſo wrote an apology for the Chriſtian religion againſt that of Mahomet, under the name of *Chriſtodulus*.

CANTALIVERS, in architecture, pieces of wood framed into the front or ſides of a houſe, to ſuſpend the mouldings and eyes over it.

CANTAR, or CANTARO, an eaſtern weight, of different value in different places, equal at Acra in Turky to 603 pounds, at Tunis and Tripoli to 114 pounds.

CANTAR is alſo an Egyptian weight, which is denominated a *quintal*, and conſiſts of an hundred or of an hundred and fifty rotolos, according to the goods they are to weigh.

CANTARO is alſo an Egyptian weight, which at Naples is equivalent to 25 pounds, at Genoa to 150 pounds. At Leghorn there are three kinds of *cantaros*, one weighing 150 pounds, another 151, and a third 160 pounds.

CANTARO is alſo a Spaniſh liquid meaſure, in uſe eſpecially at Alicant, containing three galluns.

CANTARO is alſo a meaſure of capacity, uſed at Cochin, containing four rubies, the rubi 32 rotolos.

CANTARINI (Simon), a famous painter, called the *Peſareſe*, from his being born at Peſaro, was the diſciple of Guido; and copied the manner of his maſter ſo happily, that it is often difficult to diſtinguiſh between their works. He died at Verona in 1648.

CANTATA, in muſic, a ſong or compoſition, intermixed with recitatives, airs, and different movements, chiefly intended for a ſingle voice, with a thorough baſs, though ſometimes for other inſtruments.

The cantata, when performed with judgement, has ſomething in it very agreeable; the variety of the movement not clogging the ear, like other compoſitions. It was firſt uſed in Italy, then in France, whence it paſſed to us.

CANTAZARO, an epiſcopal city of Italy, in the kingdom of Naples, and in the territory of Calabria Ulterior. It is the reſidence of the governor of the province, and is ſeated near the ſea, in E. Long. 17. 0. N. Lat. 38. 59.

CANTECROIX, a ſmall territory of the Netherlands, in Brabant, and in the quarter of Antwerp, with the title of a principality; there is a ſmall town of the ſame name, but Lire is the capital.

CANTEMIR (Demetrius), ſon of a prince of Moldavia. Diſappointed by not ſucceeding his father in that dignity, held under the Ottoman Port, he went over with his army to the Czar Peter the great, againſt whom he had been ſent by the Grand Signior: he ſignalized himſelf in the Czar's ſervice; and in the republic of letters, by a Latin hiſtory of the origin and decline of the Ottoman empire, &c. Died in 1723.

CANTEMIR (Antiochus), eſteemed the founder of the Ruſſian poetry, was the youngeſt ſon of the preceding. Under the moſt ingenious profeſſors, whom the czar had invited to Peterſburgh, he learned mathematics, phyſic, hiſtory, moral philoſophy, and polite literature; without neglecting the ſtudy of the Holy Scriptures, to which he had a great inclination. Scarce had he finiſhed his academic courſe, when he printed a Concordance to the Pſalms in the Ruſſian language, and was elected member of the academy. The affairs of ſtate in which he was ſoon after engaged, did not make him neglect his literary purſuits. In order to make himſelf uſeful to his fellow-citizens, he compoſed his ſatires, to ridicule certain prejudices which had got footing among them. When but 23 years of age, he was nominated miniſter at the court of Great Britain; and his dexterity in the management of public affairs was as much admired as his taſte for the ſciences. He had the ſame reputation in France, whither he went in 1738, in quality of miniſter plenipotentiary, and ſoon after was inveſted with the character of ambaſſador extraordinary. The wiſe and prudent manner in which he conducted himſelf during the different revolutions which happened in Ruſſia during his abſence, gained him the confidence and eſteem of three ſucceſſive princes. He died of a dropſy, at Paris, in 1744, aged 44. Beſides the pieces already mentioned, he wrote, 1. Some fables and odes. 2. A tranſlation of Horace's epiſtles into Ruſſian verſe. 3. A proſe tranſlation of Fontenelle's plurality of worlds; and, 4. Algarotti's dialogues on light. The abbe Guaſco has written his life in French, and tranſlated his ſatires into that language. Cantemir, Canterbury.

CANTERBURY, a city of England, and capital of the county of Kent, ſituated in E. Long. 1. 15. N. Lat. 51. 16. It had the names of *Durovernum* and *Darvernum* given it by the Romans, and *Durobernia* by Bede, which are thought to be derived from *Durwhem*, ſignifying a rapid ſtream, ſuch as the Stour, on which it ſtands, is. The Britons call it *Caer-Kent*, i. e. the city of Kent; and its preſent Engliſh name is of the ſame import, derived from the Saxon. Modern writers in Latin call it *Cantuaria*. Its great antiquity appears not only from Antoninus's itinerary, but from the military way which has been diſcovered here, and the cauſeways leading to Dover and Lymme, beſides the ruins and other curioſities found about it. The archiepiſcopal and metropolitical dignity ſeems to have been ſettled here very early; and to prevent its being removed, an anathema was decreed againſt any who ſhould attempt it. After that, the city flouriſhed greatly; though it ſuffered in common with other towns during the Daniſh invaſions, and at other times by the caſualties of fire. The city was given entirely to the biſhops by William Rufus, and was held in the utmoſt veneration in the Popiſh times, eſpecially after the murder of Becket in the reign of Henry II. to whoſe ſhrine ſo great was the reſort, and ſo rich were the offerings, that Eraſmus, who was an eye-witneſs of its wealth, ſays the whole church and chapel in which he was interred glittered with jewels; and at the diſſolution, the plate and jewels filled two great cheſts, each of which required eight ſtrong men to carry out. The cathedral was granted by Ethelbert, king of Kent, upon his converſion, to Auſtin the monk, together with his palace, and the royalty of the city and its territories. This Auſtin founded a monaſtery for monks, called from him *Auguſtine*. After the cathedral had been ſeveral times deſtroyed by fire and rebuilt, the preſent was begun about the year 1174, and augmented and embelliſhed by the ſucceeding archbiſhops, till it was completed in the reign of Henry V. It is a noble Gothic pile, and before the reformation had 37

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altars. A great many kings, princes, cardinals, and archbiſhops, are buried in it. At the diſſolution, Henry VIII. ſeized all the revenues both of the church and monaſtery, except what he allotted for the maintenance of a dean, 12 prebendaries, and ſix preachers, whom he eſtabliſhed in place of the monks. During the grand rebellion, it ſuffered much; the uſurper Cromwell having made a ſtable of it for his dragoons. After the reſtoration, it was repaired, and made what it now appears.

Beſides the cathedral and other churches, as well as a monaſtery, the city had anciently a caſtle on the ſouth-ſide, and ſtrong walls, with towers, a ditch, and rampart; it had alſo a mint and an exchange. As to its government, it ſeems to have been entirely ſubject to the archbiſhop, both in ſpirituals and temporals; at leaſt from the time that William Rufus gave it ſolely to biſhop Anſelm, till the reformation. It is now a county of itſelf; and the corporation conſiſts of a mayor, recorder, 12 aldermen, a ſheriff, 24 common-council-men, a mace-bearer, ſword-bearer, and four ſerjeants at mace. Every Monday a court is held at Guildhall for civil and criminal cauſes; and every other Tueſday for the government of the city. Here were formerly 2000 or 3000 French Proteſtants employed in the ſilk manufacture; but this branch is now greatly decayed in the place, ſince Spitalfields became ſo flouriſhing. Beſides the cathedral, it contains 15 pariſh-churches, ſeven hoſpitals, a free-ſchool, a houſe of correction, a gaol for criminals, and a ſumptuous conduit for ſupplying the inhabitants with water. It conſiſts of four ſtreets, diſpoſed in the form of a croſs, and divided into ſix wards, which are about three miles in circumference. It is ſurrounded on all hands with hop-grounds much to its advantage, and is famed for its excellent brawn.

The dioceſe of Canterbury contains 257 pariſhes, beſides chapels, in Kent, and about 100 more in other dioceſes. Theſe are called *Peculiars*; it being an ancient privilege of this ſee, that, wherſoever the archbiſhops had either manors or advowſons, the place was exempted from the juriſdiction of the ordinary of the dioceſe where it was ſituated, and was deemed in the dioceſe of Canterbury. This ſee is valued in the king's books at L. 2816: 17: 9½, but is reckoned to produce a clear revenue of L. 8000 a-year. The clergy's tenths come to L. 651: 18: 2½. This ſee had many great privileges in the time of Popery, ſome of which it ſtill retains. The archbiſhop is accounted primate and metropolitan of all England, and is the firſt peer in the realm; having the precedence of all dukes not of the blood-royal, and all the great officers of ſtate. In common ſpeech, he is ſtyled *His Grace*, and he writes himſelf *Divina Providentia*; whereas other biſhops ſtyle themſelves *Divina Permiſſione*. At coronations, he places the crown on the king's head; and, wherever the court may be, the king and queen are the proper domeſtic pariſhioners of the archbiſhop of Canterbury. The biſhop of London is accounted his provincial dean, the biſhop of Wincheſter his ſub-dean, the biſhop of Lincoln his chancellor, and the biſhop of Rocheſter his chaplain. This ſee hath yielded to the church 18 ſaints; to the church of Rome, 9 cardinals; to the civil ſtate of England 12 lord chancellors, 4 lord treaſurers, and 1 lord chief juſtice; and 9 chancellors to the Univerſity of Oxford. To this ſee belongs only one archdeacon, viz. of Canterbury. To the cathedral belongs an archbiſhop, a dean, a chancellor, an archdeacon, 12 prebends, 6 preachers, 6 minor canons, 6 ſubſtitutes, 12 lay clerks, 10 choriſters, 2 maſters, 50 ſcholars, and 12 almſmen. Canterus || Canticles.

Canterbury-Bell, in botany: The Engliſh name of a ſpecies of CAMPANULA.

CANTERUS (William), an eminent linguiſt and philologer, was born at Utrecht, in 1542. He ſtudied at Louvain and Paris; and gave ſurpriſing proofs of his progreſs in Greek and Latin literature. He afterwards viſited the ſeveral univerſities of Germany and Italy; and died at Louvain, in 1575, aged 33. He underſtood ſix languages, beſides that of his native country; and, notwithſtanding his dying ſo young, wrote ſeveral philological and critical works, among which are, *Notæ, Scholia, Emendationes, et Explicationes, in Euripidem, Sophoclem, Æſchylum, Ciceronem, Propertium, Auſonium*, &c. and many tranſlations of Greek authors.

CANTHARIDES. See CANTHARIS and MELOE.

CANTHARIS, in zoology, a genus of inſects belonging to the order of inſecta coleoptera. The feelers of this genus are ſetaceous; the breaſt is marginated, and ſhorter than the head; the elytra, or wing-caſes, are flexile; and the ſides of the belly are plated and papillous. Linnæus enumerates 27 ſpecies of the cantharis, moſt of them to be found in different parts of Europe. The cantharis uſed in making bliſtering plaſters, is ranked under a different genus, viz. the MELOE.

CANTHI, in anatomy, cavities at the extremities of the eye-lids, commonly called the *corners of the eye*: the greater of them, or the greater canthus, is next the noſe; the leſſer of them, or the little canthus, lies towards the temple.

CANTICLES, a canonical book of the Old Teſtament, otherwiſe called the *Song of Solomon*; by the Jews the *Song of Songs*, *Canticum Canticorum*. The book of Canticles is uſually ſuppoſed to be an epithalamium compoſed by Solomon, on occaſion of his marriage with the king of Egypt's daughter. But thoſe who penetrate further into the myſtery, find in it the marriage of Jeſus Chriſt with human nature, the church, and good men. On this principle the Canticles is held to be a continued allegory, wherein, under the terms of a common wedding, a divine and ſpiritual marriage is expreſſed. This ſong contains the adventures of ſeven days and ſeven nights; the exact time allowed for the celebration of marriage among the Hebrews. The Jews themſelves, apprehending the book liable to be underſtood in a groſs and carnal manner, prohibited the reading of it before the age of 30, and the ſame uſage anciently obtained in the Chriſtian church. Among the ancients, Theodore Mopſuetanus rejected the book of Canticles as not divine. Divers rabbins have alſo queſtioned its being written by inſpiration. It is alleged, that the name of God is not once found in it. Mr Whiſton has a diſcourſe expreſs to prove that the Canticles is not a ſacred book of the Old Teſtament. He alleges it indeed to have been written by king Solomon the ſon of David; but aſſerts that it was compoſed at the time when that prince, blinded by his concubines, was ſunk in luſt and idolatry.

Cantimarons || Cantium.

try. This he chiefly infers from the general character of vanity and diſſoluteneſs which reigns thro' the Canticles; in which there is not, according to Whiſton, one thought that leads the mind towards religion, but all is worldly and carnal, to ſay no worſe. For the myſtic ſenſe, he aſſerts it to be without foundation; and that the book is not cited as canonical by any writer before the deſtruction of Jeruſalem. Mr Whiſton will have it to have been taken into the canon between the years 77 and 128, when allegories came into vogue, and the rabbins began to corrupt the text of Scripture. Grotius, Nierembergius, the Dutch divines who criticiſed F. Simon, Menetrier, Baſnage, and ſome others, ſeem alſo to take the Canticles for a profane compoſition, on a footing with the love-pieces of Catullus or Ovid. But this opinion is refuted by Michaelis, Majus, Witſius, Nat. Alexander, Outrein, Francius, and others. Mr Whiſton's arguments have been particularly conſidered by Itchener, and alſo by Dr Gill. R. Akiba finds the book of Canticles more divine than the reſt: the whole world, according to this rabbin, is not worth that day when the Canticles was given to Iſrael; for, whereas all the hagiographers are holy, the Canticles is the holy of holies.

CANTIMARONS, or CATIMARONS, a kind of floats or rafts, uſed by the inhabitants of the coaſt of Coromandel to go a fiſhing in, and to trade along the coaſt. They are made of three or four ſmall canoes, or trunks of trees dug hollow, and tied together with cacao ropes, with a triangular ſail in the middle, made of matts. The perſons who manage them are almoſt half in the water, there being only a place in the middle a little raiſed to hold their merchandize; which laſt particular is only to be underſtood of the trading cantimarons, and not of thoſe who go fiſhing.

CANTIN (Cape), a promontory of the coaſt of Morocco in Africa, ſituated in W. Long. 10. 2. N. Lat. 33. 9.

CANTING, a ſea-phraſe, denotes the act of turning any thing about.

Canting Language or *dialect*, is a myſterious ſort of jargon uſed by gypſies, thieves, and ſtrolling beggers, to expreſs their ſentiments to each other, without being underſtood by the reſt of mankind. This dialect is not founded on any rules: yet, even out of that irregularity many words ſeem to retain ſomething of ſcholarſhip; as *togeman* a gown, from *toga* in the Latin; *panam*, bread, from *panis*; *caſan*, cheeſe, from *caſeus*, &c. It is obſervable, that, even unknown to ourſelves, we have adopted ſome of their terms into our vulgar language; as *bite* and *bilk*, to cheat; *bounce*, to vapour; *bowſe*, ſtrong drink; *filch*, to ſteal; *flog*, to whip; *rig*, game or ridicule; *rouſt*, to rally; *rhino*, money. From the ſame ſource proceed the words *ſham*, *banter*, *bubble*, *bully*, *ſharper*, *cutting*, *ſhuffling*, *palming*, &c. An anonymous author has given a canting dictionary, comprehending all the terms uſed by the ſeveral tribes of gypſies, beggars, ſhoplifters, highwaymen, footpads, and other clans of cheats and villains, with a collection of ſongs in the canting dialect; London, 1725, 8vo.

CANTIUM, (anc. geog.) a promontory of Britain, literally denoting a head land; giving name to a territory called Cantium, now Kent; and to a people called Cantii, (Cæſar), commended for their great humanity and politeneſs. The promontory now the North *Foreland*. It is ſuppoſed that this was the firſt diſtrict in Britain which received a colony from the continent; and that it had frequently changed its maſters, by new colonies coming over from time to time, and driving the inhabitants further north. In the midſt of all theſe revolutions it ſtill retained its ancient name (which was ſo agreeable to its ſhape and ſituation), and gave the ſame name to all the ſucceſſive tribes by which it was inhabited. Thoſe who poſſeſſed it at the time of the firſt Roman invaſion were evidently of Belgic origin, and had come over ſo lately, that they differed in nothing from their countrymen on the continent. "The inhabitants of Kent (ſays Cæſar) are the moſt civilized of all the Britons, and differ but very little in their manners from the Gauls." This great reſemblance between the people of Kent and their neighbours on the continent, might be partly owing to the ſituation of their country, which being neareſt to the continent, was moſt frequented by ſtrangers from thence. It was this ſituation alſo which expoſed them to the firſt aſſaults of the Romans. For Cæſar, in both his expeditions into this iſland, landed in Kent; and therefore we may conclude, that the Cantii had a great ſhare in the vigorous oppoſition that was made to his landing, and in the ſeveral battles and ſkirmiſhes which were fought againſt him after his landing; particularly, they made a very bold, but unſucceſsful attempt, upon his naval camp. The Cantii did not make the ſame vigorous reſiſtance to the Romans on their next invaſion in the reign of Claudius. For Aulus Plautius, the Roman general in that expedition, traverſed their country without ſeeing an enemy; and as they now ſubmitted to the power of Rome without a ſtruggle, ſo they continued in a ſtate of quiet ſubmiſſion to it to the very laſt. The ſituation of Cantium occaſioned its being much frequented by the Romans, who generally took their way through it in their marches to and from the continent. Few places in Britain are more frequently mentioned by the Roman writers than Rutupium and Portus Rutupenſis, moſt probably Richborough and Stonar. Rutupium was the ſame in thoſe times that Dover is in ours; the uſual place of embarking for, and landing from, the continent. Before the final departure of the Romans out of Britain, Portus Dubris, now Dover, had become a conſiderable place, and a well-frequented harbour, where the third iter of Antoninus ends, and from whence they often embarked for Gaul. Portus Lemanus, ſuppoſed to be Lime near Weſt Hythe, was alſo a noted ſea-port in theſe times, and the termination of the fourth iter of Antoninus. Durobrivæ and Durovernum, now Rocheſter and Canterbury, were both Roman towns and ſtations, and are often mentioned in the itinerary and other books. Beſides theſe, there were ſeveral other Roman ſtations, towns, and ports in Cantium, which need not be particularly enumerated here. Cantium, in the moſt perfect ſtate of the Roman government, made a part of the province which was called Flavia Cæſarienſis.

Cantium, Canto.

CANTO denotes a part or diviſion of a poem, anſwering to what is otherwiſe called a *book*. The word is Italian, where it properly ſignifies *ſong*. Taſſo, Arioſto, and ſeveral other Italians, have divided their longer or heroic poems into cantos. In imitation of them,

Scarron

Canton. Scarron has alſo divided his *Gigantomachia*, and Boileau his *Lutrin*, into chants or ſongs. The like uſage has been adopted by ſome Engliſh writers, as Butler, who divides his Hudibras, and Dr Garth his Diſpenſary, into cantos. A late tranſlator of part of Virgil's Æneid has even ſubdivided a book of Virgil into ſeveral cantos.

Canto, Canton.

Canto, in the Italian muſic, ſignifies a *ſong*: hence *canto ſimplice* is where all the notes or figures are equal, and called alſo *canto fermo*; *canto figurato*, that where the figures are unequal, and expreſs different motions.

Canto alſo ſignifies the treble part of a ſong: hence *canto concertante*, the treble of the little chorus; *canto ripieno*, the treble of the grand chorus, or that which ſings only now and then in particular places. *Canto* ſignifies the firſt treble, unleſs ſome other word be added to it, as *ſecondo*; in which caſe it denotes the ſecond treble.

CANTON, in geography, denotes a ſmall diſtrict or country conſtituting a diſtinct government: ſuch are the cantons of Switzerland.

Canton, *Quang-tong*, or Koanton, one of the ſouthern provinces of China; bounded on the north-eaſt by Fokien, on the north by Kiang-ſi, on the weſt by Quang-ſi and the kingdom of Tonking, and every where elſe by the ſea. The country is diverſified with hills and plains, and the ſoil in general ſo fertile that it produces two crops annually. Beſides many of the fruits of Europe, and thoſe common in other parts of the Indies, the province of Canton produces ſome peculiar to itſelf. Abundance of valuable aromatic woods are alſo to be met with in this province, as well as eagle-wood, ebony, &c.; and in the mineral kingdom the province furniſhes gold, precious ſtones, tin, quickſilver, and copper. Silk and ſugar are alſo cultivated here, and pearls are fiſhed up on the coaſts; ſo that every thing which can contribute to the pleaſure or convenience of life is to be met with in Canton. "One begins (ſays F. Premare) to have an idea of China, on entering the river Canton. Both ſides of it preſent large fields of rice which reſemble green meadows, and extend beyond the reach of ſight. They are interſected by an infinite number of ſmall canals, in ſuch a manner that the barks which paſs and repaſs in them ſeem at a diſtance, while the water which carries them is concealed, to glide along the graſs. Farther inland the country appears covered with trees and cultivated along the valleys; and the whole ſcene is interſperſed with villages, rural ſeats, and ſuch a variety of delightful proſpects, that one is never tired of viewing them, and regrets to be obliged to paſs them ſo quickly.

All the coaſts of this province abound with fiſh, and furniſh vaſt numbers of crabs, oyſters, and tortoiſes of an immenſe ſize. The inhabitants keep a prodigious number of tame ducks, which they hatch in ovens or dunghills, though it does not appear that they borrowed this cuſtom from the Egyptians. The docility of theſe creatures exceeds what we ſhould be apt at firſt to imagine. The inhabitants load a number of ſmall barks with them, and carry them in flocks to feed on the ſea-ſhore, where they find ſhrimps and other animals proper for their nouriſhment. But though the ducks from the different barks are thus unavoidably mixed together in the day-time, they are eaſily collected by only beating on a baſon, on which they immediately collect themſelves into different flocks, and each returns to its proper bark.

In this province the Chineſe have alſo a method of preſerving not only the fleſh of their ducks in ſuch a manner that it loſes nothing of its original flavour, but their eggs alſo. The latter operation is performed by covering the eggs with a coat of clay mixed with ſalt. When mixed in this manner, it ſeems that the ſalt has the property of penetrating through the pores of the ſhell, and thus impregnating the ſubſtance in the egg, which it could not do by ſimple ſolution of water.

Canton, though it ſuffered much in the Chineſe wars, is at preſent one of the moſt flouriſhing provinces of the empire; and being at a great diſtance from court, its government is one of the moſt important. A great number of fortreſſes, many of which are cities provided with numerous garriſons, have been built along the coaſts for the ſuppreſſion of pirates and robbers; for which purpoſe alſo a certain number of troops are kept properly poſted in different parts of the province. It is divided into ten diſtricts, which contain as many cities of the firſt claſs, and 84 of the ſecond and third. The air in general is warm but healthy, and the people are very induſtrious. They poſſeſs in an eminent degree the talent of imitation, ſo that if they are only ſhown any European work they can execute others like it with ſurpriſing exactneſs. The moſt remarkable cities in the province beſides Canton the capital are, 1. Chao-tcheou-fou, chiefly noted for a monaſtery of the bonzes in its neighbourhood, to which the adjacent country belongs, and the origin of which is traced back for 8 or 900 years. It has under its juriſdiction ſix cities of the third claſs; near one of theſe grows a reed of which ſeveral inſtruments are made, which cannot be diſtinguiſhed from real ebony. The air of Chao-tcheou-fou, however, is unhealthy; and great numbers of the inhabitants are carried off annually by contagious diſtempers, which prevail from the middle of October to the beginning of December. 2. Kao-tcheou-fou, ſituated in a delightful and plentiful country. In the neighbourhood is found a ſingular kind of ſtone much reſembling marble, on which are natural repreſentations of rivers, mountains, landſcapes, and trees. Theſe ſtones are cut into ſlabs, and made into tables, &c. Crabs are alſo caught on the coaſts here, which very much reſemble thoſe of Europe; but, ſays M. Groſier, they have this ſingularity, that when taken out of the water, they become petrified without loſing any thing of their natural figure. 3. Kiun-tcheou-fou, the capital of the iſland of Hai-nan. See Hai-nan.

Canton, a large, populous, and wealthy city of China, capital of the province of that name, ſtands on the banks of the river Taa, or great river, which, near the city, is wide and ſpacious. The wall of the city is pretty high, and about ſix or ſeven miles in circumference, though not more than one-third of the ground is occupied by buildings, the other parts being appropriated to pleaſure grounds or to fiſh ponds. The country is extremely pleaſant, and towards the eaſt hilly, ſo as to command a beautiful proſpect of the city and ſuburbs, the compaſs of which, together, is about ten miles.

The buildings of Canton are in general low, conſiſting of one ſtory and a ground floor, which is covered with earth or red tiles in order to keep it cool; but the houſes

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Canton. of the moſt reſpectable merchants and mandarins are comparatively lofty and well built. In different parts of the city and ſuburbs are joſs houſes or temples, in which are placed the images worſhipped by the Chineſe; before whom are placed, at particular ſeaſons, a vaſt variety of ſweetmeats, oranges, great plenty of food ready dreſſed, and alſo incenſe, which is kept perpetually burning

The ſtreets of Canton are long and narrow, paved with flint ſtones, adorned at intervals with triumphal arches, which have a pleaſing effect, and much crowded with people. On both ſides are ſhops as in London, appropriated to the ſale of different commodities; and a kind of awning is extended from houſe to houſe, which prevents the ſun's rays from incommoding either inhabitants or paſſengers. At the end of every ſtreet is a barrier, which, with the gates of the city, are ſhut in the evening. In China Street, which is pretty long and conſiderably wider than the reſt, reſide merchants; whoſe trade, ſo far as reſpects China, lackered ware, fans, &c. is wholly confined to Europeans. Moſt of them ſpeak the foreign languages tolerably well, or at leaſt ſufficiently intelligible to tranſact buſineſs. Beſides theſe merchants, there is a company of twelve or thirteen, called the *Cohong*; who have an excluſive right by appointment from authority to purchaſe the cargoes from the different ſhips, and alſo to ſupply them with teas, raw ſilks, &c. in return. The eſtabliſhment of the Cohong, though injurious to private trade, is admirably well adapted for the ſecurity of the different companies with which they traffic; becauſe each individual becomes a guarantee for the whole; ſo that if one fail, the others conſider themſelves as reſponſible.

In Canton there are no carriages; all burdens are carried by porters acroſs their ſhoulders on bamboos; as are alſo the principal people in ſedan chairs, and the ladies always. The ſtreets of Canton may be traverſed from morning till evening without ſeeing a woman, thoſe excepted who are Tartars, and even theſe but very ſeldom.

On the wharf of the river, which is commodious and pleaſant, ſtand the factories of the different European nations, viz. the Dutch, French, Swedes, Danes, Engliſh, &c. In thoſe reſide the ſupercargoes belonging to their reſpective companies, who are appointed to diſpoſe of the cargoes brought to market; to ſupply the ſhips with others for Europe in return; and, during their abſence, to contract with the merchants for ſuch articles as may be judged neceſſary for the next fleet. Between the reſidents of the factories the moſt perfect cordiality ſubſiſts; in each a common and ſplendid table is kept at the company's expence, and viſits are reciprocally exchanged; ſo that nothing is wanting to make reſidence at Canton agreeable to an European, but the pleaſure naturally reſulting from the ſociety of women.

The ſide of the river next the city is covered with boats, which form a kind of town or ſtreets, in which live the poorer ſort of the Chineſe, or rather the deſcendants of the Tartars. Some of the men come on ſhore in the morning to their reſpective employments, and in thoſe ſampans or boats which are not ſtationary, the women and alſo the men carry paſſengers from place to place in the ſame manner as is done by wherries on the Thames. On this river live many Canton. thouſand ſouls who never were permitted to come on ſhore; whoſe only habitation is their boat; in which they eat, drink, ſleep, carry on many occupations, keep ducks, &c. and occaſionally a hog.

The manufactures of Canton are principally carried on in the ſuburbs; though it has been frequently ſuppoſed that they were confined to the city; and this, by ſome writers, has been given as a reaſon why Europeans are not permitted to enter within the gates. But this is a miſtake; and perhaps the true reaſon for this very ſingular reſtraint is, that the houſes in which they keep their women are chiefly within the city.

At Wampoa, a large commodious place for anchorage, and which is about 12 or 14 miles from Canton, the European veſſels lie and unload their cargoes, which are tranſmitted by lighters to the factories; and by the ſame conveyance receive their reſpective freights. Between this place and the city are three ſloops, or cuſtom-houſes, at which the boats paſſing and repaſſing are obliged to ſtop, and undergo with its paſſengers an examination, in order to prevent ſmuggling. The lighters juſt mentioned, and alſo the captain's pinnace, are, however, excepted; the former having proper officers on board for the purpoſe, and the latter being narrowly watched and examined at the landing.

The weather at Canton is, in ſummer, extremely hot; and in the months of December, January, and February, cold: the country is nevertheleſs pleaſant and healthful, abounding with all the neceſſaries and delicacies of life, which may be procured on terms much cheaper than in Europe. The number of inhabitants has been eſtimated at one million; but later calculations have made the number conſiderably leſs. N. Lat. 23. 30. E. Long. 113. 20.

Canton (John), an ingenious natural philoſopher, was born at Stroud, in Glouceſterſhire, in 1718; and was placed, when young, under the care of a Mr Davis, of the ſame place, a very able mathematician, with whom, before he had attained the age of nine years, he had gone through both vulgar and decimal arithmetic. He then proceeded to the mathematics, and particularly to algebra and aſtronomy, wherein he had made a conſiderable progreſs, when his father took him from ſchool, and put him to learn his own buſineſs, which was that of a broad cloth weaver. This circumſtance was not able to damp his zeal for the acquiſition of knowledge. All his leiſure time was devoted to the aſſiduous cultivation of aſtronomical ſcience; and, by the help of the Caroline tables, annexed to "Wing's Aſtronomy," he computed eclipſes of the moon and other phænomena. His acquaintance with that ſcience he applied likewiſe to the conſtructing of ſeveral kinds of dials. But the ſtudies of our young philoſopher being frequently purſued to very late hours, his father, fearing that they would injure his health, forbad him the uſe of a candle in his chamber any longer than for the purpoſe of going to bed, and would himſelf often ſee that his injunction was obeyed. The ſon's thirſt of knowledge was, however, ſo great, that it made him attempt to evade the prohibition, and to find means of ſecreting his light till the family had retired to reſt, when he roſe to proſecute undiſturbed his favourite purſuits. It was during this prohibition, and at theſe hours,

Canton. hours, that he computed, and cut upon ſtone, with no better an inſtrument than a common knife, the lines of a large upright ſun-dial, on which, beſides the hour of the day, was ſhown the riſing of the ſun, his place in the ecliptic, and ſome other particulars. When this was finiſhed, and made known to his father, he permitted it to be placed againſt the front of his houſe, where it excited the admiration of ſeveral gentlemen in the neighbourhood, and introduced young Mr Canton to their acquaintance, which was followed by the offer of the uſe of their libraries. In the library of one of theſe gentlemen, he found "Martin's Philoſophical Grammar," which was the firſt book that gave him a taſte for natural philoſophy. In the poſſeſſion of another gentleman, a few miles from Stroud, he firſt ſaw a pair of globes; an object that afforded him uncommon pleaſure, from the great eaſe with which he could ſolve thoſe problems he had hitherto been accuſtomed to compute. The dial was beautified a few years ago at the expence of the gentlemen at Stroud, ſeveral of whom had been his ſchool-fellows, and who continued ſtill to regard it as a very diſtinguiſhed performance. Among other perſons with whom he became acquainted in early life, was the late reverend and ingenious Dr Henry Miles of Tooting, a learned and reſpectable member of the Royal Society, and of approved eminence in natural knowledge. This gentleman, perceiving that Mr Canton poſſeſſed abilities too promiſing to be confined within the narrow limits of a country town, prevailed on his father to permit him to come to London. Accordingly he arrived at the metropolis March 4, 1737, and reſided with Dr Miles at Tooting till the 6th of May following; when he articled himſelf, for the term of five years, as a clerk to Mr Samuel Watkins, maſter of the academy in Spital-ſquare. In this ſituation, his ingenuity, diligence, and good conduct, were ſo well diſplayed, that on the expiration of his clerkſhip in May 1742, he was taken into partnerſhip with Mr Watkins for three years; which gentleman he afterwards ſucceeded in Spital-ſquare, and there continued during his whole life. In 1744, he married Penelope, the eldeſt daughter of Mr Thomas Colbrooke, and niece to James Colbrooke, Eſq; banker in London.

Towards the end of 1745, electricity, which ſeems early to have engaged Mr Canton's notice, received a very capital improvement by the diſcovery of the famous Leyden Phial. This event turned the thoughts of moſt of the philoſophers of Europe to that branch of natural philoſophy; and our author, who was one of the firſt to repeat and to purſue the experiment, found his aſſiduity and attention rewarded by many capital diſcoveries. Towards the end of 1749, he was concerned with his friend, the late Mr Benjamin Robins, in making experiments in order to determine to what height rockets may be made to aſcend, and at what diſtance their light may be ſeen. In 1750 was read at the Royal Society, Mr Canton's "Method of making artificial magnets, without the uſe of, and yet far ſuperior to, any natural ones." This paper procured him the honour of being elected a member of the Society, and the preſent of their gold medal. The ſame year he was complimented with the degree of M. A. by the univerſity of Aberdeen; and, in 1751, was choſen one of the council of the Royal Society.

In 1752, our philoſopher was ſo fortunate as to be the firſt perſon in England, who, by attracting the electric fire from the clouds during a thunder-ſtorm, verified Dr Franklin's hypotheſis of the ſimilarity of lightning and electricity. Next year, his paper intitled, "Electrical Experiments, with an attempt to account for their ſeveral Phænomena," was read at the Royal Society. In the ſame paper Mr Canton mentioned his having diſcovered, by a great number of experiments, that ſome clouds were in a poſitive, and ſome in a negative, ſtate of electricity. Dr Franklin, much about the ſame time, made the like diſcovery in America. This circumſtance, together with our author's conſtant defence of the doctor's hypotheſis, induced that excellent philoſopher, immediately on his arrival in England, to pay Mr Canton a viſit, and gave riſe to a friendſhip which ever after continued without interruption or diminution. In the "Lady's Diary for 1756," our author anſwered the prize queſtion that had been propoſed in the preceding year. The queſtion was, "How can what we call the ſhooting of ſtars be beſt accounted for; what is the ſubſtance of this phænomenon; and in what ſtate of the atmoſphere doth it moſt frequently ſhow itſelf?" The ſolution, though anonymous, was ſo ſatisfactory to his friend, Mr Thomas Simpſon, who then conducted that work, that he ſent Mr Canton the prize, accompanied with a note, in which he ſaid, he was ſure that he was not miſtaken in the author of it, as no one beſides, that he knew of, could have anſwered the queſtion. Our philoſopher's next communication to the public, was a letter in the "Gentleman's Magazine for September 1759," on the electrical properties of the tourmalin, in which the laws of that wonderful ſtone are laid down in a very conciſe and elegant manner. On December 13th, in the ſame year, was read at the Royal Society, "An attempt to account for the regular diurnal variation of the Horizontal Magnetic Needle; and alſo for its irregular variation at the time of an Aurora Borealis." A complete year's obſervations of the diurnal variations of the needle are annexed to the paper. On Nov. 5. 1761, our author communicated to the Royal Society an account of the Tranſit of Venus, June 6. 1761, obſerved in Spital-ſquare. Mr Canton's next communication to the Society, was a letter addreſſed to Dr Benjamin Franklin, and read Feb. 4. 1762, containing ſome remarks on Mr Delaval's electrical experiments. On Dec. 16. in the ſame year, another curious addition was made by him to philoſophical knowledge, in a paper, intituled, "Experiments to prove that water is not incompreſſible." Theſe experiments are a complete refutation of the famous Florentine experiment, which ſo many philoſophers have mentioned as a proof of the incompreſſibility of water. On St Andrew's day 1763, our author was the third time elected one of the council of the Royal Society; and on Nov. 8. in the following year, were read, before that learned body, his farther "Experiments and obſervations on the compreſſibility of water, and ſome other fluids." The eſtabliſhment of this fact, in oppoſition to the received opinion, formed on the haſty deciſion of the Florentine academy, was thought to be deſerving of the Society's gold medal. It was accordingly moved for in the council of 1764; and after ſeveral invidious delays, which terminated much

Canton ‖ Cantyre.

much to the honour of Mr Canton, it was preſented to him Nov. 30. 1765.

The next communication of our ingenious author to the Royal Society, which we ſhall take notice of in this place, was on Dec. 22. 1768, being "An eaſy method of making a Phoſphorus that will imbibe and emit light like the Bologaian ſtone; with experiments and obſervations." When he firſt ſhowed to Dr Franklin the inſtantaneous light acquired by ſome of this phoſphorus from the near diſcharge of an electrified bottle, the doctor immediately exclaimed, "And God ſaid, let there be light, and there was light." The dean and chapter of St Paul's having, in a letter to the preſident, dated March 6. 1769, requeſted the opinion of the Royal Society relative to the beſt and moſt effectual method of fixing electrical conductors to preſerve that cathedral from damage by lightning, Mr Canton was one of the committee appointed to take the letter into conſideration, and to report their opinion upon it. The gentlemen joined with him in this buſineſs were, Dr Watſon, Dr Franklin, Mr Delaval, and Mr Wilſon. Their report was made on the 8th of June following; and the mode recommended by them has been carried into execution. The laſt paper of our author's, which was read before the Royal Society, was on Dec. 21. 1769; and contained "Experiments to prove that the Luminouſaeſs of the Sea ariſes from the putrefaction of its animal ſubſtances." In the account now given of his communications to the public, we have chiefly confined ourſelves to ſuch as were the moſt important, and which threw new and diſtinguiſhed light on various objects in the philoſophical world. Beſides theſe, he wrote a number of papers, both in earlier and in later life, which appeared in ſeveral different publications, and particularly in the Gentleman's Magazine.

The cloſe and ſedentary life of Mr Canton, ariſing from an unremitted attention to the duties of his profeſſion, and to the proſecution of his philoſophical enquiries and experiments, probably contributed to ſhorten his days. The diſorder into which he fell, and which carried him off, was a dropſy. His death happened on March 22. 1772, in the 54th year of his age.

CANTONING, in the military art, is the allotting diſtinct and ſeparate quarters to each regiment; the town where they are quartered being divided into as many cantons as there are regiments.

CANTRED, or Cantref, ſignifies an hundred villages. It is a Britiſh word, compounded of the adjective *cant*, i. e. hundred; and *tref*, a town or village. In Wales ſome of the counties are divided into cantreds, as in England into hundreds.

CANTYRE, (from *Cantierre*, ſignifying a "headland"); the ſouthern diviſion of the ſhire of Argyle in Scotland. It is a peninſula, ſtretching 37 miles from north to ſouth, and ſeven miles in breadth. It is moſtly plain, arable, and populous; inhabited promiſcuouſly by Highlanders and Lowlanders, the latter being invited to ſettle in this place by the Argyle family, that the lands might be the better cultivated. It gives the title of *marquis* to the duke, and is by Lochfyn divided from Argyle Proper. This loch is an inlet from the ſea, about 60 miles in length and four in breadth, affording heretofore an excellent herring-fiſhery. There are many paltry villages in this country, but no town of any conſequence except Campbeltown.

Cantyre ‖ Canute.

Cantyre was granted to the houſe of Argyle after a ſuppreſſion of a rebellion of the Macdonalds of the Iſles (and it is ſuppoſed of this peninſula) in the beginning of the laſt century, and the grant was afterwards ratified by parliament. The ancient inhabitants were the Mac-donalds, Mac-eachrans, Mac-kays, and Mac-maths.

Mull of Cantyre, the ſouth cape or promontory of the peninſula. There is here a light-houſe 235 feet above the ſea at high water, ſituated on the rocks called the *Merchants*, Lat. 55. 22. Long. 5. 42. weſt of London. The ſound of Iſla from the light-houſe bearing, by the compaſs, N. by E. diſtant 27 miles; the ſouth end of Iſla N. N. W. diſtant 25 miles; the north end of Rathlin iſland, N. W. by W. one half W.; the Maiden Rocks, S. by W. one half W. diſtant 14 miles; Copland light, S. by W. one half W. diſtant 31 miles. The lanthorn is ſeen from N. N. E. 1-4th E. from S. by W. 1-4th W. and intermediate points of the compaſs N. of theſe two points.

CANTZ, a town of Sileſia in Germany. E. Long. 16. 36. N. Lat. 51. 6.

CANVAS, in commerce, a very clear unbleached cloth of hemp, or flax, wove regularly in little ſquares. It is uſed for working tapeſtry with the needle, by paſſing the threads of gold, ſilver, ſilk, or wool, through the intervals or ſquares.

Canvas is alſo a coarſe cloth of hemp, unbleached, ſomewhat clear, which ſerves to cover womens ſtays, alſo to ſtiffen mens clothes, and to make ſome other of their wearing apparel, &c.

Canvas is alſo uſed among the French for the model or firſt words whereon an air or piece of muſic is compoſed, and given to a poet to regulate and finiſh. The canvas of a ſong contains certain notes of the compoſer, which ſhow the poet the meaſure of the verſes he is to make. Thus Dr Lot ſays, he has canvas for ten ſonnets againſt the muſes.

Canvas is alſo the name of a cloth made of hemp, and uſed for ſhip-ſails.

Canvas, among painters, is the cloth on which they uſually draw their pictures; the canvas being ſmoothed over with a ſlick-ſtone, then ſized, and afterwards whited over, makes what the painters call their *primed cloth*, on which they draw their firſt ſketches with coal or chalk, and afterwards finiſh with colours.

CANUSIUM (anc. geog.), a town of Apulia, on the right or ſouth ſide of the Aufidus, to the weſt of Cannæ; whither the Romans fled after the defeat ſuſtained there. It was famous for its red ſhining wool; whence thoſe who wore clothes made of it were called *Canuſinati*. Now called Canosa; which ſee.

CANUTE, the firſt Daniſh king of England after Ironſide. He married Emma widow of king Ethelred; and put to death ſeveral perſons of quality who ſtood in his way to the crown. Having thus ſettled his power in England, he made a voyage to his other kingdom of Denmark, in order to reſiſt the attacks of the king of Sweden; and he carried along with him a great body of the Engliſh under the command of the earl of Godwin. This nobleman had here an opportunity of performing a ſervice by which he both reconciled the

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Canute. king's mind to the Engliſh nation, and, gaining to himſelf the friendſhip of his ſovereign, laid the foundation of that immenſe fortune which he acquired to his family. He was ſtationed next the Swediſh camp; and, obſerving a favourable opportunity which he was obliged ſuddenly to ſeize, he attacked the enemy in the night, drove them ſuddenly from their trenches, threw them into diſorder, purſued his advantage, and obtained a deciſive victory over them. Next morning, Canute, ſeeing the Engliſh camp entirely abandoned, imagined that theſe diſaffected troops had deſerted to the enemy; and he was agreeably ſurpriſed to find that they were at that time engaged in purſuit of the diſcomfited Swedes. He was ſo pleaſed with this ſucceſs, and the manner of obtaining it, that he beſtowed his daughter in marriage upon Godwin, and treated him ever after with the moſt entire confidence and regard.

In another voyage which he afterwards made to Denmark, Canute attacked Norway, and expelled the juſt but unwarlike Olaus from his kingdom, of which he kept poſſeſſion till the death of that prince. He had now by his conqueſts and valour attained the utmoſt height of his ambition; and having leiſure from wars and intrigues, he felt the unſatisfactory nature of all human enjoyments; and, equally weary of the glory and turmoils of this life, he began to caſt his view towards that future exiſtence which is ſo natural for the human mind, whether ſatiated by proſperity or diſguſted with adverſity, to make the object of its attention. Unfortunately the ſpirit which prevailed in that age gave a wrong direction to his devotion; and, inſtead of making atonement to thoſe whom he had formerly injured by his acts of violence, he entirely employed himſelf in thoſe exerciſes of piety which the monks repreſented as moſt meritorious. He built churches; he endowed monaſteries; he enriched eccleſiaſtics; and he beſtowed revenues for the ſupport of chantries at Aſſington and other places, where he appointed prayers to be ſaid for the ſouls of thoſe who had there fallen in battle againſt him. He even undertook a pilgrimage to Rome, where he ſojourned a conſiderable time; and, beſides obtaining from the Pope ſome privileges for the Engliſh ſchool erected there, he engaged all the princes through whoſe dominions he was obliged to paſs, to deſiſt from thoſe heavy impoſitions and tolls which they were accuſtomed to exact from the Engliſh pilgrims. By this ſpirit of devotion, no leſs than by his equitable and politic adminiſtration, he gained in a good meaſure the affections of his ſubjects.

Canute, who was the greateſt and moſt powerful prince of his time, ſovereign of Denmark and Norway as well as of England, could not fail to meet with adulation from his courtiers; a tribute which is liberally paid even to the meaneſt and weakeſt of princes. Some of his flatterers breaking out one day in admiration of his grandeur, exclaimed, that every thing was poſſible for him: upon which the monarch, it is ſaid, ordered a chair to be ſet on the ſea-ſhore while the tide was making; and, as the waters approached, he commanded them to retire, and to obey the voice of him who was lord of the ocean. He feigned to ſit ſome time in expectation of their ſubmiſſion; but when the ſea ſtill advanced towards him, and began to waſh him with its billows, he turned to his courtiers, and remarked to them, That every creature in the univerſe was feeble and impotent, and that power reſided with one Being alone, in whoſe hands were all the elements of nature, who could ſay to the ocean, "Thus far ſhalt thou go, and no farther," and who could level with his nod the moſt towering piles of human pride and ambition. From that time, it is ſaid, he never would wear a crown. He died in the 20th year of his reign; and was interred at Wincheſter, in the old monaſtery. Canute ‖ Caoutchouc.

CANZONE, in muſic, ſignifies, in general, a ſong, where ſome little fugues are introduced: but it is ſometimes uſed for a ſort of Italian poem, uſually pretty long, to which muſic may be compoſed in the ſtyle of a cantata. If this term be added to a piece of inſtrumental muſic, it ſignifies much the ſame as cantata: if placed in any part of a ſonata, it implies the ſame meaning as *allegro*, and only denotes that the part to which it is prefixed is to be played or ſung in a briſk and lively manner.

CANZONETTA, a diminutive of canzone, denoting a little ſhort ſong. The canzonette neapolitane has two ſtrains, each whereof is ſung twice over, as the vaudevilles of the French: The canzonette ſiciliane is a ſpecies of jigg, the meaſure whereof is uſually twelve eighths, and ſix eighths, and ſometimes both, as rondeaus.

CAORLO, a ſmall iſland in the gulf of Venice, on the coaſt of Friuli, 20 miles ſouth-weſt of Aquileia, ſubject to Venice. It has a town of the ſame name, with a biſhop's ſee.

CAOUTCHOUC, Elastic Resin, or *India Rubber*, a ſubſtance produced from the ſyringe-tree of Cayenne and other parts of South America, and poſſeſſed of the moſt ſingular properties. No ſubſtance is yet known which is ſo pliable, and at the ſame time ſo elaſtic; and it is farther a matter of curioſity, as being capable of reſiſting the action of very powerful menſtrua. From the account of M. de la Condamine, we learn, that this ſubſtance oozes out, under the form of a vegetable milk, from inciſions made in the tree; and that it is gathered chiefly in time of rain, becauſe, though it may be collected at all times, it flows then moſt abundantly. The means employed to inſpiſſate and indurate it, M. de la Borde ſays, are kept a profound ſecret. M. Bomare, and others, affirm, that it thickens and hardens gradually by being expoſed to the air; and as ſoon as it acquires a ſolid conſiſtence, it manifeſts a very extraordinary degree of flexibility and elaſticity. Accordingly the Indians make boots of it, which water cannot penetrate, and which, when ſmoaked, have the appearance of real leather. Bottles are alſo made of it, to the necks of which are faſtened hollow reeds, ſo that the liquor contained in them may be ſquirted through the reeds or pipes by preſſure. One of theſe filled with water is always preſented to each of the gueſts at their entertainments, who never fail to make uſe of it before eating. This whimſical cuſtom led the Portugueſe in that country to call the tree that produces this reſin *pao di xirringa*, and hence the name of *feringa* is given both to the tree and to its reſinous production. Flambeaux, an inch and a half in diameter, and two feet long, are likewiſe made of this reſin, which give a beautiful light, have no bad ſmell, and burn twelve hours. A kind of cloth is alſo prepared from it, which

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Caoutchouc. the inhabitants of Quito apply to the ſame purpoſes as our oil-cloth and ſail-cloth. It is formed, in fine, by means of moulds, into a variety of figures for uſe and ornament; and the proceſs is ſaid to be thus:—The juice, which is obtained by inciſion, is ſpread over pieces of clay formed into the deſired ſhape; and as ſaſt as one layer is dry, another is added, till the veſſel be of the proper thickneſs: the whole is then held over a ſtrong ſmoke of vegetables on fire, whereby it hardens into the texture and appearance of leather; and before the finiſhing, while yet ſoft, is capable of having any impreſſion made on the outſide, which remains ever after. When the whole is done, the inſide mould is picked out.

Ever ſince this reſin has been known in Europe, its chemical qualities and other intereſting properties have been very diligently inveſtigated. In particular, it has been endeavoured to diſcover ſome method of diſſolving it in ſuch a manner that it would aſſume different figures with equal eaſe as when in its original ſtate of milk. In the memoirs of the academy of ſciences for 1768, we have an account of ſeveral attempts for this purpoſe, and how it may be effected. —The ſtate of vegetable milk in which the caoutchouc reſin is found when it comes from the tree, led Mr Macquer to imagine that it was compoſed of an oil and a watery matter. From its nauſeous aromatic flavour, from its little volatility, and from its being incapable of ſolution in ſpirit of wine, he concluded that the oil which entered its compoſition was not an eſſential, but a fatty, one. Hence he thought it probable that it paſſed from a fluid to a ſolid form by the evaporation of the watery part, and that the oily ſolvents would reduce it to a ſoft ſtate. The firſt trials he made for diſſolving it were with linſeed oil, eſſence of turpentine, and ſeveral others. But all he could obtain by means of theſe menſtrua was a viſcid ſubſtance incapable of being hardened, and totally void of elaſticity. The rectified eſſential oil of turpentine was employed ſeemingly with greater ſucceſs. To ſeparate from this menſtruum the caoutchouc which it had diſſolved, Mr Macquer added ſpirit of wine: but the conſequence was, that part only of the oil united with the ſpirit; the reſt remaining obſtinately attached to the reſin which it had diſſolved, and thus preventing it from aſſuming a ſolid conſiſtence. The author next endeavoured to diſſolve it by means of heat in Papin's digeſter. But neither water, nor ſpirit of wine, although in this way capable of diſſolving the hardeſt bones, could produce any other effect upon it than to render it more firm than before. After this, he tried what effect the milky juice of other vegetables would have upon it. He uſed ſeveral kinds, particularly that of the fig. But, in this way, he could obtain no ſolution. From the great volatility of ether, he was next induced to try it as a menſtruum; and, for this purpoſe, he prepared ſome with great attention. The caoutchouc, cut into little bits, and put into a proper veſſel with as much ether as was ſufficient to cover it, was perfectly diſſolved without any other heat than that of the atmoſphere. This ſolution was tranſparent and of an amber colour. It ſtill preſerved the ſmell of ether, but mixed with the diſagreeable odour of the caoutchouc, and it was a little leſs fluid than pure ether. Upon its being thrown into water, no milky liquor was produced; but there aroſe to the ſurface a ſolid membrane which poſſeſſed the great elaſticity and other peculiar properties of the caoutchouc. He obſerves, however, that two pints of the beſt ether, obtained by rectifying eight or ten pints of the common ether by a gentle heat, muſt be uſed, in order to the ſucceſs of the operation.—The diſtinguiſhing properties of this ſubſtance, viz. its ſolidity, flexibility, and elaſticity, and its quality of reſiſting the action of aqueous, ſpirituous, ſaline, oily, and other common ſolvents, render it extremely fit for the conſtruction of tubes, catheters, and other inſtruments, in which theſe properties are wanted. In order to form this reſin into ſmall tubes, M. Macquer prepared a ſolid cylindrical mould of wax, of the deſired ſize and ſhape; and then dipping a pencil into the etherial ſolution of the reſin, daubed the mould over with it, till he had covered it with a coat of reſin of a ſufficient thickneſs. The whole piece is then thrown into boiling water; by the heat of which the wax is ſoon melted, and riſes to the ſurface, leaving the reſinous tube completely formed behind. Caoutchouc.

A reſin ſimilar to this was ſome years ago diſcovered by M. Poivre, in the iſle of France; and there are various milky juices extracted from trees in America and elſewhere, which by previous mixtures and preparations are formed into an elaſtic reſin, but of an inferior quality to that of Cayenne: ſuch, for inſtance, are the juices obtained from the *Cecropia peltata*, the *Ficus religioſa* and *indica*, &c.

Of the genuine trees, thoſe growing along the banks of the river of the Amazons are deſcribed by M. Condamine as attaining a very great height, being at the ſame time perfectly ſtraight, and having no branches except at top, which is but ſmall, covering no more than a circumference of ten feet. Its leaves bear ſome reſemblance to thoſe of the *manioc*: they are green on the upper part, and white beneath. The ſeeds are three in number, and contained in a pod conſiſting of three cells, not unlike thoſe of the *ricinus* or *palma Chriſti*; and in each of them there is a kernel, which being ſtripped and boiled in water produces a thick oil or fat, anſwering the purpoſes of butter in the cookery of that country.

A method of diſſolving this elaſtic gum without ether, for the purpoſes of a varniſh or the like, is as follows: Take one pound of the ſpirit of turpentine, and a pound of the gum cut into very ſmall pieces; pour the turpentine into a long-necked matraſs, which muſt be placed in a ſand-bath; throw in the gum, not all at once, but by little and little according as it is perceived to diſſolve: When it is entirely diſſolved, pour into the matraſs a pint of nut or linſeed oil, or oil of popies, rendered deſiccative in the uſual manner with litharge: Then let the whole boil for a quarter of an hour, and the preparation is finiſhed. This would make an excellent varniſh for air-balloons, were it not ſo expenſive on account of the price of the gum.—Another method, invented by Mr Baldwin, is as follows. Take any quantity of the caoutchouc, as two ounces avoirdupois: cut it into ſmall bits with a pair of ſciſſars. Put a ſtrong iron ladle (ſuch as plumbers or glaziers melt their lead in) over a common pit-coal or other fire. The fire muſt be gentle, glowing, and without ſmoke. When the ladle is hot, much be-

Caoutchoue, Cap

low a red heat, put a ſingle bit into the ladle. If black ſmoke iſſues, it will preſeotly flame and diſappear: or it will evaporate without flame: the ladle is then too hot. When the ladle is leſs hot, put in a ſecond bit, whieh will produce a white ſmoke. This white ſmoke will continue during the operation, and evaporate the caoutchoue: therefore no time is to be loſt; but little bits are to be put in, a few at a time, till the whole are melted. It ſhould he continually and gently ſtirred with an iron or braſs ſpoon. Two pounds, or one quart, of the beſt drying oil (or of raw linſeed oil whieh, together with a few drops of neats foot oil, has ſtood a month, or not ſo loog, on a lump of quieklime, to make it more or leſs drying) is to be put into the melted caoutchoue, and ſtirred till hot: and the whole poured into a glazed veſſel, through a coarſe gauze, or fine ſieve. When ſettled and elear, whieh will he in a few mioutes, it is fit for uſe, either hot or eold.

The Abbé Clavigero informs us, that the elaſtic gum is called hy the Mexicans *Olin* or *Olli*, and by the Spaniards of that kingdom *Ule*: That it diſtils from the Olquahuitl, whieh is a tree of moderate ſize; the trunk of whieh is ſmooth and yellowiſh, the leaves pretty large, the flowers white, and the fruit yellow and rather round, but angular; within whieh there are kernels as large as filberds, and white, but covered with a yellowiſh pellicle: That the kernel has a hitter taſte, and the fruit always grows attached to the bark of the tree: That wheo the trunk is cut, the Ule whieh diſtils from it is white, liquid, and viſcous; afterwards it becomes yellow; and laſtly of a leadeo colour, though rather blaeker, which it always retains. The tree, he adds, is very common in the kingdom of Guatimala.

As to the genus of this tree, it does not ſeem to be yet aſcertained. Aublet, io his *Hiſtoire des Plants de la Guiane* (p. 871.), deſcribes the tree, the fruit, and manner of collecting the juiee; hut never ſaw the fluwer: he ealls it, however, *Hevea Guianenſis*. In Jacquio's America, it is called *Echites corymboſa*. The younger Linnæus, io his *Supplementum Plantarum* (p. 422), oames it *Jatropha elaſtica*; but acknowledges that he only gives it this name from the ſtructure of the fruit having moſt reſemblance to that genus, his dry ſpecies wanting the flowers.

Of the above gum, it is ſaid, the Chineſe make elaſtie rings for laſeivious purpoſes.—Among us it is uſed by ſurgeons for injecting liquids, and by painters for rubbing out hlack-lead pencil marks, &c.

CAP, a part of dreſs made to cover the head, much in the figure thereof.

The uſe of caps and hats is referred to the year 1449, the firſt ſeen in theſe parts of the world being at the entry of Charles VII. into Rouen: from that time they hegan to take place of the hoods, or chaperoons, that had been uſed till theo. When the cap was of velvet, they called it *mortier*; when of wool, ſimply *bonnet*. None but kings, princes, and knights, were allowed the uſe of the mortier. The cap was the head-dreſs of the clergy aad graduates. Paſquier ſays, that it was anciently a part of the hood worn hy the people of the robe; the ſkirts whereof beiog cut off as an ineumbranee, left the round cap an eaſy commodious cover for the head; whieh round cap being afterwards aſſumed by the people, thoſe of the gown ehaoged it for a ſquare one, firſt invented by a Frenchman, called Patrouillet: he adds, that the giving of the cap to the ſtudents in the univerſities, was to deoote, that they had acquired full liberty, and were no longer ſubject to the rod of their ſuperiors; in imitation of the ancieot Romans, who gave a *pileus*, or eap, to their ſlaves, in the ceremony of making them free: whence the proverb, *Vocare ſervos ad pileum*. Hence, alſo, on medals, the cap is the ſymbol of liberty, whom they repreſent holding a cap in her right hand, by the point. Cap.

The Romans were many ages without any regular eovering for the head: when either the raio or ſun was troubleſome, the lappet of the gowo was thrown over the head; and hence it is that all the ancient ſtatues appear hareheaded, excepting ſometimes a wreath, or the like. Aod the ſame uſage obtained among the Greeks, where, at leaſt during the heroie age, no caps were known. The ſort of caps or eovers of the head in uſe among the Romans on divers occaſions, were the *pitra*, *pileus*, *cucullus*, *galerus*, and *palliolum*; the differences between whieh are often confounded by aneient as well as modern writers.

The French clergy wear a ſhallow kind of cap, called *calotte*, which only covers the top of the head, made of leather, ſattin, worſted, or other ſtuff. The red cap is a mark of dignity allowed only to thoſe who are raiſed to the cardinalate. The ſeeular elergy are diſtioguiſhed hy black leathern caps, the regulars by koit and worſted ones.

Churchmen, and the members of univerſities, ſtudents in law, phyſie, &c. as well as graduates, wear ſquare caps. In moſt univerſities doctors are diſtinguiſhed hy peculiar caps, given them in aſſuming the doctorate. Wiekliff calls the canons of his time *biſurcati*, from their caps. Paſquier ohſerves, that, in his time, the caps worn by the churchmen, &c. were called ſquare caps; though, in effect, they were round yellow caps.

The Chineſe have not the uſe of the hat, like us; but wear a eap of a peculiar ſtructure, whieh the laws of eivility will not allow them to put off: it is different for the different ſeaſons of the year: that uſed in ſummer is in form of a cone, ending at top in a point. It is made of a very beautiful kind of mat, much valued in that eountry, and lined with ſattin: to this is added, at top, a large loek of red ſilk, whieh falls all round as low as the bottom; ſo that, in walking, the ſilk fluctuating regularly on all ſides, makes a graceful appearance: ſometimes, inſtead of ſilk, they uſe a kind of hright red hair, the luſtre whereof no weather effaces. In winter they wear a pluſh cap, hordered with martlet's or fox's ſkin; as to the reſt, like thoſe for the ſummer. Theſe caps are frequently ſold for eight or ten erowns; but they are ſo ſhort, that the ears are expoſed.

The cap is ſometimes uſed as a mark of infamy; in Italy the Jews are diſtinguiſhed by a yellow cap; at Lucca by an orange one. In France, thoſe who had been hankrupts were ohliged ever after to wear a green cap, to prevent people from beiog impoſed oo in any future eommerce. By ſeveral arrets in 1584, 1622, 1628, 1688, it was decreed, that if they were at any time found without their green eap, their protection ſhould-

Cap
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Capell.

should be null, and their creditors impowered to caſt them into priſon: but the ſentence is not now executed.

Cap of Maintenance, one of the regalia, or ornaments of ſtate belonging to the kings of England, before whom it was carried at the coronation and other great ſolemnities. Caps of maintenance are alſo carried before the mayors of the ſeveral cities in England.

Cap, in ſhip building, a ſtrong, thick, block of wood, uſed to confine two maſts together, when one is erected at the head of the other in order to lengthen it. It is for this purpoſe furniſhed with two holes perpendicular to its length and breadth, and parallel to its thickneſs: one of theſe is ſquare, and the other round; the former being ſolidly fixed upon the upper end of the lower maſt, whilſt the latter receives the maſt employed to lengthen it, and ſecures it in this poſition.

CAPACIO, an epiſcopal town of Italy, in the kingdom of Naples, and in the hither Principato. E. Long. 15. 18. N. Lat. 40. 40.

CAPACITY, in a general ſenſe, an aptitude or diſpoſition to hold or retain any thing.

Capacity, in geometry, is the ſolid contents of any body; alſo our hollow meaſure for wine, beer, corn, ſalt, &c. are called *meaſures of capacity*.

Capacity, in law, the ability of a man, or body politic, to give or take lands or other things, or ſue actions.

Our law allows the king two capacities; a natural, and a political: in the firſt, he may purchaſe lands to him and his heirs; in the ſecond, to him and his ſucceſſors. The clergy of the church of England have the like.

CAPARASON, or Caparison, the covering or clothing laid over an horſe; eſpecially a fumpter horſe, or horſe of ſtate. The word is Spaniſh, being an augmentative of *cape*, *caput*, *head*.

Anciently the caparaſons were a kind of iron armour, wherewith horſes were covered in battle.

CAPE, in geography, an high land running out with a point into the ſea, as Cape-Nord, Cape-Horn, the Cape of Good Hope, &c.

Cape-Elk. See Cervus.

Cape-Breton. See Breton.

Cape-Coaſt Caſtle. See Coast.

Cape of Good Hope. See Good Hope.

Cape-Verd. See Verd.

CAPELL (Edward), a gentleman well known by his indefatigable attention to the works of Shakeſpeare, was a native of the county of Suffolk, and received his education at the ſchool of St Edmund's Bury. In the dedication of his edition of Shakeſpeare, in 1768, to the duke of Grafton, he obſerves, that "his father and the grandfather of his grace were friends, and to the patronage of the deceaſed nobleman he owed the leiſure which enabled him to beſtow the attention of 20 years on that work." The office which his grace beſtowed on Mr Capell was that of deputy-inſpector of the plays, to which a ſalary is annexed of 200l. a-year. So early as the year 1745, as Mr Capell himſelf informs us, ſhocked at the licentiouſneſs of Hanmer's plan, he firſt projected an edition of Shakeſpeare, of the ſtricteſt accuracy, to be collated and publiſhed, in due time, *ex fide codicum*. He immediately proceeded to collect and compare the oldeſt and ſcarceſt copies; noting the original excellencies and defects of the rareſt quartos, and diſtinguiſhing the improvements or variations of the firſt, ſecond, and third folios: and, after many years labour, produced a very beautiful ſmall octavo, in 10 volumes, with "an Introduction." There is not, the authors of the Monthly Review obſerve, among the various publications of the preſent literary æra, a more ſingular compoſition than that "Introduction." In ſtyle and manner, it is more obſolete and antique than the age of which it treats. It is Lord Herbert of Cherbury, walking the new pavement in all the trappings of romance; but, like Lord Herbert, it diſplays many valuable qualities accompanying this air of extravagance, much ſound ſenſe, and appropriate erudition. In the title-page of "Mr William Shakeſpeare his Comedies, Hiſtories, and Tragedies," it was alſo announced and promulgated, "Whereunto will be added, in ſome other volumes, notes critical and explanatory, and a body of various readings entire." "The Introduction" likewiſe declared, that theſe "notes and various readings" would be accompanied with another work, diſcloſing the ſources from which Shakeſpeare "drew the greater part of his knowledge in mythological and claſſical matters, his fable, his hiſtory, and even the ſeeming peculiarities of his language—to which," ſays Mr Capell, "we have given for title, The School of Shakeſpeare." Nothing ſurely could be more properly conceived than ſuch deſigns, nor have we ever met with any thing better grounded on the ſubject of "the learning of Shakeſpeare" than what may be found in the long note to this part of Mr Capell's Introduction. It is more ſolid than even the popular "Eſſay" on this topic. Certain quaintneſſes of ſtyle, and peculiarities of printing and punctuation, attended the whole of this publication. The outline, however, was correct; and the critic, with unremitting toil, proceeded in his undertaking. But while he was diving into the claſſics of Caxton (to continue the Reviewers account), and working his way underground, like the river Mole, in order to emerge with all his glories; while he was looking forward to his triumphs; certain other active ſpirits went to work upon his plan, and, digging out the promiſed treaſures, laid them prematurely before the public, defeating the effect of our critic's diſcoveries by anticipation. Steevens, Malone, Farmer, Percy, Reed, and a whole hoſt of literary ferrets, burrowed into every hole and corner of the warren of modern antiquity, and over-ran all the country, whoſe map had been delineated by Edward Capell. Such a contingency nearly ſtaggered the ſteady and unſhaken perſeverance of our critic, at the very eve of the completion of his labours, and as his editor informs us—for, alas! at the end of near 40 years, the publication was poſthumous, and the critic himſelf no more!—he was almoſt determined to lay the work wholly aſide. He perſevered, however, by the encouragement of ſome noble and worthy perſons: and to ſuch their encouragement, and his perſeverance, the public was, in 1783, indebted for three large volumes in 4to, under the title of "Notes and various readings of Shakeſpeare; together with the School of Shakeſpeare, or Extracts from divers Engliſh Books,

Capell.

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Capella ‖ Caperolans.

Books, that were in print in the Author's time; evidently ſhowing from whence his ſeveral Fables were taken, and ſome parcel of his Dialogue. Alſo farther Extracts, which contribute to a due underſtanding of his Writings, or give a light to the Hiſtory of his Life, or to the Dramatic Hiſtory of his Time. By Edw. Capell."—Beſides the works already mentioned, Mr Capell was the editor of a volume of ancient poems called "Proluſions;" and the alteration of "Antony and Cleopatra," as acted at Drury Lane in 1758. He died January 24. 1781.

CAPELLA, in aſtronomy, a bright fixed ſtar in the left ſhoulder of the conſtellation Auriga.

CAPELLE, a town of France, in Picardy, and in the Tierache, eight miles from Guiſe. It was taken by the Spaniards in 1636; but retaken the year after. E. Long. 3. 59. N. Lat. 49. 58.

CAPELLETS, in farriery. See there, § xxxvi. 4.

CAPELLUS (Lewis), an eminent French Proteſtant divine, born at Sedan in Champagne about the year 1579. He was author of ſome learned works; but is chiefly known from the controverſy he engaged in with the yoonger Buxtorf concerning the antiquity of Hebrew points, which Capellus undertook to diſprove. His *Critica Sacra* was alſo an elaborate work, and excited ſome diſputes. He died in 1658, having made an abridgement of his life in his work *De gente Capellori*.

CAPER, in botany. See CAPPARIS.

CAPER alſo denotes a veſſel uſed by the Dutch for cruiſing and taking prizes from the enemy; in which ſenſe, caper amounts to the ſame with privateer. Capers are commonly double-officered, and crowded with hands even beyond the rates of ſhips of war, becauſe the thing chiefly in view is boarding the enemies.

CAPERNAUM, a city celebrated in the goſpels, being the place where Jeſus uſually reſided during the time of his miniſtry. This city is no where mentioned in the Old Teſtament under this or any other name like it; and therefore it is not improbable that it was one of thoſe towns which the Jews built after their return from the Babyloniſh captivity. It ſtood on the ſea-coaſt, *i. e.* on the coaſt of the ſea of Galilee, in the borders of Zebulon and Nephtalim (Matt. iv. 15.), and conſequently towards the upper part thereof. It took its name no doubt from an adjacent ſpring of great repute for its clear and limpid waters; and which, according to Joſephus, was by the natives called *Capernaum*. As this ſpring might be ſome inducement to the building the town in the place where it ſtood, ſo its being a convenient wafting place from Galilee to any part on the other ſide of the ſea, might be ſome motive to our Lord for his moving from Nazareth, and making this the place of his moſt conſtant reſidence. Upon this account Capernaum was highly honoured, and ſaid by our Lord himſelf to be *exalted unto heaven*; but becauſe it made no right uſe of this ſignal favour, it drew from him the ſevere denunciation, that it ſhould *be brought down to hell* (Matt. xi. 23.), which has certainly been verified: for, as Dr Wells obſerves, ſo far is it from being the metropolis of all Galilee, as it once was, that it conſiſted long ſince of no more than ſix poor fiſhermens cottages, and may perhaps be now totally deſolate.

CAPEROLANS, a congregation of religious in Italy, ſo called from Peter Caperole their founder, in the 15th century. Caperquin ‖ Capi-aga.

The Milaneſe and Venetians being at war, the enmity occaſioned thereby ſpread itſelf to the very cloyſters. The ſuperiors of the province of Milan, of minor brothers, which extended itſelf as far as the territories of the republic of Venice, carried it ſo haughtily over the Venetians, that thoſe of the convent of Breſcia reſolved to ſhake off a yoke which was grown inſupportable to them. The ſuperiors, informed of this, expelled out of the province thoſe whom they conſidered as the authors of this deſign; the principal of whom were Peter Caperole, Matthew de Tharvillo and Bonaventure of Breſcia. Peter Caperole, a man of an enterpriſing genius, found means to ſeparate the convents of Breſcia, Bergamo, and Cremona, from the province of Milan, and ſubject them to the conventuals. This occaſioned a law-ſuit between the vicar-general and theſe convents, which was determined in favour of the latter; and theſe convents, in 1475, by the authority of Pope Sixtus IV. were erected into a diſtinct vicariate, under the title of that of *Breſcia*. This not ſatisfying the ambition of Caperole, he obtained, by the interpoſition of the Doge of Venice, that this vicariate might be erected into a congregation, which was called from him *Caperolans*. This congregation ſtill ſubſiſts in Italy, and is compoſed of 24 convents, ſituated in Breſcia, Bergamo, and Cremona.

CAPERQUIN, a town of Ireland, in the county of Waterford, and province of Munſter, ſituated on the river Blackwater. W. Long. 7. 50. N. Lat. 52. 5.

CAPESTAN, a town of France, in Lower Languedoc, in the dioceſe of Narbonne, and near the royal canal. E. Long. 3. 5. N. Lat. 43. 35.

CAPH, a Jewiſh meaſure of capacity for things eſtimated by Kimchi at the 30th part of the log, by Arbuthnot at the 16th part of the hin or 32d of the ſeah, amounting to five-eighths of an Engliſh pint. The caph does not occur in Scripture as the name of any meaſure.

CAPHAR, a duty which the Turks raiſe on the Chriſtians who carry or ſend merchandiſes from Aleppo to Jeruſalem and other places in Syria.

This duty of caphar was firſt impoſed by the Chriſtians themſelves, when they were in poſſeſſion of the Holy Land, for the maintenance of the troops which were planted in difficult paſſes to obſerve the Arabs and prevent their incurſions. It is ſtill continued, and much increaſed by the Turks, under pretence of defending the Chriſtans againſt the Arabs; with whom, nevertheleſs, they keep a ſecret intelligence, favouring their excurſions and plunders.

CAPHTOR (anc. geog.), a town or diſtrict of Higher Egypt: and hence the people called *Caphtorim* or *Caphtoraei*.—Caphtor is an iſland of Egypt, Ai Caphtor, (Jeremiah); probably one of thoſe in the Nile. Dr Wells ſuppoſes it to be Coptos, which ſtood in a ſmall iſland. Thence came the *Caphtorim* or *Caphtoraei*, in Paleſtine; who with the Philiſtines conſpired to extirpate the Hevaei; and whoſe name was ſwallowed up in that of the Philiſtines.

CAPI-AGA, or *Capi-Agaſſi*, a Turkiſh officer who is governor of the gates of the ſeraglio, or grand maſter of the ſeraglio.

The capi-aga is the firſt dignity among the white eunuchs:

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Capias ll Capillament.

eunuchs: he is always near the perſon of the grand ſignior: he introduces ambaſſadors to their audience: nobody enters or goes out of the grand ſignior's apartment but by his means. His office gives him the privilege of wearing the turban in the ſeraglio, and of going every where on horſeback. He accompanies the grand ſignior to the apartment of the ſultanas, but ſtops at the door without entering. His appointment is very moderate; the grand ſignior bears the expence of his table, and allows him at the rate of about ſixty French livres per day: but his office brings him in abundance of preſents; no affair of conſequence coming to the emperor's knowledge without paſſing through his hand. The capi-aga cannot be baſhaw when he quits his poſt.

CAPIAS, in law, a writ of two ſorts; one before judgment in an action, and the other after. That before judgment is called *capias ad reſpondendum*, where an original is iſſued out, to take the defendant, and make him anſwer the plaintiff. That after judgment is of divers kinds; as,

Capias ad Satisfaciendum, a writ of execution that iſſues on a judgment obtained, and lies where any perſon recovers in a perſonal action, as for debt, damages, &c. in which caſes this writ iſſues to the ſheriff, commanding him to take the body of him againſt whom the debt is recovered, who is to be kept in priſon till he make ſatisfaction.

Capias pro Fine is a writ lying where a perſon is fined to the king, for ſome offence committed againſt a ſtatute, and he does not diſcharge the fine according to the judgment; therefore his body ſhall be taken by this writ, and committed to gaol till the fine is paid.

Capias Utlegatum, a writ which lies againſt any one outlawed, upon any action perſonal or criminal, by which the ſheriff is ordered to apprehend the party outlawed, for not appearing on the exigent, and keep him in ſafe cuſtody till the day of return, when he is ordered to preſent him to the court, to be there farther ordered for his contempt.

Capias in Withernam, a writ that lies for cattle *in withernam*: that is, where a diſtreſs taken is driven out of the county, ſo that the ſheriff cannot make deliverance upon a replevin; then this writ iſſues, commanding the ſheriff to take as many beaſts of the diſtrainer, &c.

CAPIGI, a porter or door-keeper of the Turkiſh ſeraglio. There are about five hundred *capigis* or porters in the ſeraglio, divided into two companies; one conſiſting of three hundred, under a chief called *Capigi-Baſſa*, who has a ſtipend of three ducats per day; the other conſiſts of two hundred, diſtinguiſhed by the name of *Cuccicapigi*, and their chief *Cuccicapigi-Baſſa*, who has two ducats. The capigis have from ſeven to fifteen aſpers per day; ſome more, others leſs. Their buſineſs is to aſſiſt the janizaries in the guard of the firſt and ſecond gates of the ſeraglio; ſometimes all together; as when the Turk holds a general council, receives an ambaſſador, or goes to the moſque; and ſometimes only in part; being ranged on either ſide to prevent people entering with arms, any tumults being made, &c. The word, in its original, ſignifies *gate*.

CAPILLAMENT, in a general ſenſe, ſignifies a hair: whence the word is applied to ſeveral things, which on account of their length or their fineneſs reſemble hairs: as,

Capillaments, Capillary.

Capillaments of the Nerves, in anatomy, the fine fibres or filaments whereof the nerves are compoſed.

CAPILLARY, in a general ſenſe, an appellation given to things on account of their extreme fineneſs or reſembling hair.

Capillary Tubes, in phyſics, are ſmall pipes of glaſs, whoſe canals are extremely narrow, their diameter being only a half, a third, or a fourth of a line.

The aſcent of water, &c. in capillary tubes, is a phenomenon that has long embarraſſed the philoſophers: for let one end of a glaſs tube open at both extremities be immerged in water, the liquor within the tube will riſe to a conſiderable height above the external ſurface: or if two or more tubes are immerged in the ſame fluid, one a capillary tube, and the other of a larger bore, the fluid will aſcend higher in the former than in the latter; and this will be in a reciprocal ratio of the diameters of the tubes.

In order to account for this phenomenon, it will be neceſſary firſt to premiſe, that the attraction between the particles of glaſs and water is greater than the attraction between the particles of waters themſelves; for if a glaſs tube be placed in a poſition parallel to the horizon, and a drop of water be applied to the under ſide of the tube, it will adhere to it; nor will it fall from the glaſs till its bulk and gravity are ſo far increaſed, as to overcome the attraction of the glaſs. Hence it is eaſy to conceive how ſenſibly ſuch a power muſt act on the ſurface of a fluid, not viſcid, as water, contained within the ſmall cavity or bore of a glaſs-tube; as alſo that it will be proportionably ſtronger as the diameter of the bore is ſmaller; for it will be evident that the efficacy of the power is in the inverſe proportion of the diameter, when it is conſidered, that ſuch particles only as are in contact with the fluid, and thoſe immediately above the ſurface, can effect it.

Now theſe particles form a periphery contiguous to the ſurface, the upper part of which attracts and raiſes the ſurface, while the lower part, which is in contact with it, ſupports it: ſo that neither the thickneſs nor length of the tube is of any conſequence here; the periphery of particles only, which is always proportionable to the diameter of the bore, is the only acting power. The quantity of the fluid raiſed will therefore be as the ſurface of the bore which it fills, that is, as the diameter; for otherwiſe the effect would not be proportional to the cauſe, ſince the quantities are always as the ratio of the diameters; the heights therefore to which the fluids will riſe, in different tubes, will be inverſely as the diameters.

Some doubt whether the law holds throughout, of the aſcent of the fluid being always higher as the tube is ſmaller; Dr Hook's experiments, with tubes almoſt as fine as cobwebs, ſeem to ſhow the contrary. The water in theſe, he obſerves, did not riſe ſo high as one would have expected. The higheſt he ever found it, was at 21 inches above the level of the water in the baſon; which is much ſhort of what it ought to have been by the law above mentioned. See Cohesion.

Capillary Veſſels. Many ſmall veſſels of animal bodies have been diſcovered by the modern invention of injecting the veſſels of animals with a coloured fluid which

Capillus ‖ Capital.

which upoo cooling grows hard. But though moſt anatomiſts koow the manner of filliog tbe large trunks, few are acquainted with the art of filling the capillaries. Dr Monro, in the Medical Eſſays, has given wbat after many trials be has found moſt ſucceſsful. See INJECTION.

CAPILLUS VENERIS. See ADIANTHUM.

CAPILUPI, or CAPILUPUS (Camillus), a native of Mantua in the 16tb century. He wrote a book, entitled, *The Stratagem;* in whicb he relates not only what was perpetrated at Paris during the maſſacre on St Bartbolomew's day, but alſo the artful preparations which preceded that horrid maſſacre. It is, however, blended with a great nnmber of falſities.

CAPILUPI (Lælius), an Italian poet, brother to the former, made himſelf famous by ſome Centos of Virgil. The manner in whicb he applied Virgil's expreſſions to repreſent things which tbe poet never dreamt of, is admired. His Cento againſt women is very ingenious, but too ſatirical. The poems of Capilupi are inſerted in the *Delicie Poetarum Italorum*.

CAPISCOLUS, or CAPISCHOLUS, in eccleſiaſtical writers, denotes a dignitary in certain cathedrals, who had the ſuperintendency of the choir, or band of muſic, anſwering tn what in otber churches is called *chanter* or *precentor*. The word is alſo written *cabiſcolus*, and *caputſcbola*, q. d. the head of the ſchool, or band of muſic.

The capiſcolus is alſo called *ſcolaſticus*, as baving tbe inſtruction of the young clerks and choriſters, bow to perform tbeir duty.

CAPITA, (diſtribution by), in law, ſignifies the appointing to every man an equal ſhare of a perſonal eſtate; when all the claimants claim in their own rights, as in equal degrees of kindred, and not *jure repreſentationis*.

CAPITA, (ſucceſſion by), wbere the claimants are oext in degree to the anceſtor, in their own right, and not by right of repreſeotation.

CAPITAL, of the Latin *caput* "the head", is uſed on various occaſioos, to expreſs the relation of a bead, chief, or principal: thus,

Capital City, io geography, denotes the principal city of a kingdom, ſtate, or province.

Capital Stock, among merchants, bankers, and traders, ſignifies, the ſum of money whicb individuals bring to make up the common ſtock of a partnerſhip when it is firſt formed. It is alſo ſaid of tbe ſtock whieb a merchant at firſt puts into trade for his aecount. It likewiſe ſignifies tbe fund of a trading company or corporation, in which ſenſe tbe word ſtock is generally added to it. Thus we ſay, the capital ſtock of the bank, &e. The word capital is oppoſed to that of profit or gain, though tbe profit often increaſes tbe capital, and becomes of itſelf part of the capital, when joined witb the former.

Capital Crime, fueh a one as ſubjects the criminal to capital puniſhment, that is, to loſs of life *.

* [See *Crime* and *Puniſhment*.

Capital Picture, io painting, denotes one of the fioeſt and moſt excellent pieces of aoy celebrated maſter.

Capital Letters, in printing, large or initial letters, whereio titles, &c. are compoſed; with wbieh all periods, verſes, &c. commence; and wherewith alſo all proper names of men, kingdoms, natioos, &c. begin. The practice which, for ſome time, obtained among our printers, of begioning every ſubſtantive with a capital, is now juſtly fallen into diſrepute; being a manifeſt perverſion of the deſign of capitals, as well as an offenee againſt beauty and diſtinctneſs.

Capital ‖ Capite.

CAPITAL, in architecture, the uppermoſt part of a column or pilaſter, ſerving as the head or crowning, and placed immediately over the ſhaft, and under the entablature. See ARCHITECTURE.

CAPITANA, or CAPTAIN *Galley*, tbe chief or principal galley of a ſtate, not dignified with the title of a kingdom. The capitana was anciently the denomination of the chief galley of France, which the commander went on board of. But ſince tbe ſuppreſſion of tbe office of captain general of the gallies in 1669, they have no capitana, but the firſt galley is called *reale*, and the ſecond *parone*.

CAPITANATA, one of the 12 provinces of the kingdom of Naples, in Italy, bounded on the oorth by the Gulph of Venice, on the eaſt by the Terra di Bari, on the ſouth by the Baſilicata and tbe Farther Principato, and on the weſt by the county di Molife and a ſmall part of Hither Abruzzo. It is a level country, witbout trees; the ſoil ſandy, tbe air hot: the land, bowever, near the rivers, is fertile in paſtures. The capital town is Manfredonia.

CAPITANEATE, in a general ſenſe, the ſame witb capitania. Capitaneates, in Pruſſia, are a kiod of noble feuds, or eſtates, whieh, beſides their revenoe, raiſe tbeir owners to the rank of noblility. They are otherwiſe called *ſtaroſties*.

CAPITANEI, or CATANEI, in Italy, was a denomitation given to all the dukes, marquiſſes, and counts, who were ealled *capitanei regis*. The ſame appellation was alſo given to perſons of inferior rank who were inveſted with fees, formerly diſtinguiſhed by the appellation *valvaſores majores*.

CAPITANEUS, in ancient law writers, deootes a tenant in capite, or chief.

Capitaneus Eccleſiæ, the ſame witb advocate.

CAPITANIA, in geography, an appellation given to tbe 12 governments eſtabliſhed by the Portugueſe in the Braſils.

CAPITATION, a tax or impoſition raiſed on each perſon, in proportion to his labour, indoſtry, office, rank, &c. It is a very ancient kind of tribute. Tbe Latins eall it *tributum*, by whicb taxes on perſons are diſtinguiſhed from taxes oo merchandiſe, which were called *veſtigalia*.

Capitations are never practiſed among us but io exigeneies of ſtate. In Fraoce the capitation was introduced by Louis XIV. in 1695; and is a tax very diſferent from tbe *taille*, being levied from all perſons, whether they be ſubject to the taille or not. The clergy pay no capitation, but the princes of the blood are not exempted from it.

CAPITE, in law, (from *caput*, i. e. *rex*; wbence *tenere in capite*, is to bold of the *king*, the *head* or lord paramount of all the lands in tbe kingdom): An ancieot tenore of land, held immediately of the king, as of his crown, either by knigbt's ſerviee, or by ſoccage. It is now aboliſhed. See TENURE.

CAPITA *Cenſi*, in aotiquity, the loweſt rank of Roman citizens, who in public taxes were rated the leaſt of all, being ſuch as oever were worth above 365 aſſes. Tbey were ſuppoſed to have been thus called, becauſe they

Capitol, Capitoline.

they were rather counted and marſhalled by their heads than by their eſtates. The *capite cenſi* made part of the ſixth claſs of citizens, being below the *proletarii*, who formed the other moiety of that claſs. They were not enrolled in the army, as being judged not able to ſupport the expence of war; for in thoſe days the ſoldiers maintained themſelves. It does not appear, that before Caius Marius any of the Roman generals liſted the *capite cenſi* in their armies.

CAPITOL, CAPITOLIUM, in antiquity, a famous fort or caſtle, on the Mons Capitolinus at Rome, wherein was a temple dedicated to Jupiter, thence alſo denominated *Capitolinus*, in which the ſenate anciently aſſembled; and which ſtill ſerves as the city-hall, or town-houſe, for the meeting of the conſervators of the Roman people.—It had its name *capitol*, from *caput*, a man's head, ſaid to have been found freſh, and yet bleeding, upon digging the foundation of the temple built in honour of Jupiter. Arnobius adds, that the man's name was *Tolus*, whence *caput-tolium*.—The firſt foundations of the capitol were laid by Tarquin the Elder, in the year of Rome 139. His ſucceſſor Servius raiſed the walls; and Tarquin the Proud finiſhed it in the year 221. But it was not conſecrated till the third year after the expulſion of the kings, and eſtabliſhment of the conſulate. The ceremony of the dedication of the temple was performed by the conſul Horatius in 246.

The capitol conſiſted of three parts; a nave ſacred to Jupiter; and two wings, the one conſecrated to Juno, the other to Minerva: it was aſcended to by ſtairs; the frontiſpiece and ſides were ſurrounded with galleries, in which thoſe who were honoured with triumphs entertained the ſenate at a magnificent banquet, after the ſacrifices had been offered to the gods.

Both the inſide and outſide were enriched with an infinity of ornaments, the moſt diſtinguiſhed of which was the ſtatue of Jupiter, with his golden thunderbolt, his ſceptre, and crown. In the capitol alſo were a temple to Jupiter the guardian, and another to Juno, with the mint; and on the deſcent of the hill was the temple of Concord. This beautiful edifice contained the moſt ſacred depoſits of religion, ſuch as the ancylia, the books of the Sibyls, *&c.*

The capitol was burnt under Vitellius, and rebuilt under Veſpaſian. It was burnt a ſecond time by lightning under Titus, and reſtored by Domitian.

Anciently the name *capitol* was likewiſe applied to all the principal temples, in moſt of the colonies throughout the Roman empire; as at Conſtantinople, Jeruſalem, Carthage, Ravenna, Capua, *&c.*—That of Tholouſe, has given the name of *capitouls* to its echevins or ſheriffs.

CAPITOLINE GAMES, annual games inſtituted by Camillus, in honour of Jupiter Capitolinus, and in commemoration of the capitol's not being taken by the Gauls. Plutarch tells us, that a part of the ceremony conſiſted in the public criers putting up the Hetrurians to ſale by auction: they alſo took an old man, and tying a golden bulla about his neck, expoſed him to the public deriſion. Feſtus ſays they alſo dreſſed him in a pretexta.—There was another kind of Capitoline games, inſtituted by Domitian, wherein there were rewards and crowns beſtowed on the poets, champions, orators, hiſtorians, and muſicians. Theſe laſt Capitoline games were celebrated every five years, and became ſo famous, that, inſtead of calculating time by luſtra, they began to count by Capitoline games, as the Greeks did by Olympiads. It appears, however, that this cuſtom was not of long continuance.

Capitolinus || Capitulation.

CAPITOLINUS (Julius), an hiſtorian in the beginning of the fourth age under Dioclefian, to whom he inſcribed the Lives of Verus, Antoninus Pius, Clodius Balbinus, Macrinus, the Maximins, and the Gordians. He wrote other lives, which are moſt of them loſt.

CAPITOUL, or CAPITOL, an appellation given to the chief magiſtrates of Tholouſe, who have the adminiſtration of juſtice and policy both civil and mercantile in the city. The capitouls at Tholouſe are much the ſame with the echevins at Paris, and with the conſuls, bailiffs, burger-maſters, mayors, and aldermen, &c. in other cities. In ancient acts they are called *conſules capitularii* or *capitolini*, and their body *capitulum*. From this laſt come the words *capitularii* and *capitouls*. The appellative *capitolini* aroſe hence, that they have the charge and cuſtody of the town-houſe, which was anciently called *capitol*.

The office only laſts one year, and ennobles the bearers. In ſome ancient acts they are called *capitulum nobilium Toloſæ*. Thoſe who have borne it, ſtyle themſelves afterwards burgeſſes. They are called to all general councils, and have the *jus imaginum*; that is, when the year of their adminiſtration is expired, their pictures are drawn in the town-houſe; a cuſtom which they have retained from the ancient Romans, as may be ſeen in Sigonius.

CAPITOULATE, an appellation given to the ſeveral quarters or diſtricts of the city of Tholouſe, each under the direction of a capitoul; much like the wards of London, under their aldermen. Tholouſe is now divided into eight *capitoulates* or quarters, which are ſubdivided into *moulons*, each of which has its tithing-man, whoſe buſineſs is to inform the capitoul of what paſſes in his tithing, and to inform the inhabitants of the tithing of the orders of the capitoul.

CAPITULAR, or CAPITULARY, denotes an act paſſed in a chapter, either of knights, canons, or religious.

The capitularia, or capitulars of Charlemagne, Charles the Bald, &c. are the laws, both eccleſiaſtical and civil, made by thoſe emperors in the general councils or aſſemblies of the people; which was the way in which the conſtitutions of moſt of the ancient princes were made; each perſon preſent, though a plebeian, ſetting his hand to them.

Some diſtinguiſh theſe from laws; and ſay, they were only ſupplements to laws. They had their name, capitulars, becauſe divided into capitula, chapters, or ſections. In theſe capitulars did the whole French juriſprudence anciently conſiſt. In proceſs of time, the name was changed for that of ordonnances.

Some diſtinguiſh three kinds of capitulars, according to the difference of their ſubject-matter: thoſe on eccleſiaſtical affairs, are really canons, extracted from councils; thoſe on ſecular affairs, real laws; thoſe relating to particular perſons, or occaſions, private regulations.

CAPITULATION, in military affairs, a treaty made between the inhabitants or garriſon of a place beſieged

Capitulation ‖ Capo.

beſieged and the beſiegers, for the delivering up the place on certain conditions. The moſt honourable and ordinary terms of capitulation are, To march out at the breach with arms and baggage, drums beating, colours flying, a match lighted at both ends, and ſome pieces of cannon, waggons and convoys for their baggage, and for their ſick and wounded.

CAPITULATION, in the German polity, a contract which the emperor makes with the electors, in the name of all the princes and ſtates in the empire, before he is declared emperor, and which he ratifies before he is raiſed to that ſovereign dignity. The principal points which the emperor undertakes to obſerve are, 1. To defend the church and empire. 2. To obſerve the fundamental laws of the empire. And, 3. To maintain and preſerve the rights, privileges, and immunities of the electors, princes, and other ſtates of the empire, ſpecified in the capitulation. Theſe articles and capitulations are preſented to the emperor by the electors only, without the concurrence of the other ſtates, who have complained from time to time of ſuch proceedings; and in the time of the Weſtphalian treaty, in 1648, it was propoſed to deliberate in the following diet, upon a way of making a perpetual capitulation; but the electors have always found means of eluding the execution of this article. In order, however, to give ſome ſatisfaction to their adverſaries, they have inſerted in the capitulations of the emperors, and in that of Francis I. in particular, a promiſe to uſe all their influence to bring the affair of a perpetual capitulation to a concluſion. Some German authors own, that this capitulation limits the emperor's power; but maintain that it does not weaken his ſovereignty: though the moſt part maintain that he is not abſolute, becauſe he receives the empire under conditions, which ſets bounds to an abſolute authority.

CAPITULUM, in the ancient military art, was a tranſverſe beam, wherein were holes through which paſſed the ſtrings whereby the arms of huge engines, as haliſtæ, catapultæ, and ſcorpions, were played or worked.

CAPITULUM, in eccleſiaſtical writers, denoted part of a chapter of the bible read and explained. In which ſenſe they ſaid, *ire ad capitulum*, to go to ſuch a lecture. Afterwards the place or apartment where ſuch theological exerciſes were performed was denominated *domus capituli*.

CAPNICON, in antiquity, chimney-money, or a tax which the Roman emperors levied for ſmoke, and which of conſequence was due from all, even the pooreſt, who kept a fire. This was firſt invented by Nicephorus.

CAPNOMANCY, a kind of divination by means of ſmoke, uſed by the ancients in their ſacrifices. The word comes καπνος, *ſmoke*, and μαντια, *divination*. The general rule was, when the ſmoke was thin, and light, and roſe ſtraight up, it was a good omen: if the contrary, it was an ill one. There was alſo another ſpecies of capnomancy, conſiſting in the obſervation of the ſmoke riſing from poppy and jeſſamin-ſeed, caſt upon lighted coals.

CAPO FINO, a large barren rock in the territory of the Genoeſe, which has a caſtle on its eaſtern peak. Near it is a ſmall harbour of the ſame name, 13 miles eaſt by ſouth of Genoa.

Capo d'Iſtria, a conſiderable town of Italy, in Iſtria, on the gulph of Trieſte, with a biſhop's ſee, and ſubject to the Venetians. The air is wholeſome and temperate; its principal revenue conſiſts in wine and ſalt. E. Long. 14. 0. N. Lat. 45. 48.

Capo ‖ Cappadocia.

CAPON, a cock-chicken, gelded as ſoon as left by the dam, or as ſoon as he begins to crow. They are of uſe either to lead chickens, ducklings, pheaſants, &c. and defend them from the kites and buzzards; or to feed for the table, they being reckoned more delicate than either a cock or a hen.

CAPONIERE, or CAPONIERE, in fortification, a covered lodgement, ſunk four or five feet into the ground, encompaſſed with a little parapet about two feet high, ſerving to ſupport ſeveral planks covered with earth. The caponiere is large enough to contain 15 or 20 ſoldiers; and is uſually placed in the glacis on the extremity of the counterſcarp, and in dry moats; having little embraſures for the ſoldiers to fire through.

CAPPADOCIA, an ancient kingdom of Aſia, comprehending all that country which lies between mount Taurus and the Euxine ſea. It was divided by the Perſians into two ſatrapies or governments; by the Macedonians into two kingdoms, the one called *Cappadocia ad Taurum*; the other, *Cappadocia ad Pontum*, and commonly *Pontus*; for the hiſtory, &c. of which laſt, ſee the article PONTUS.

Cappadocia Magna, or *Cappadocia* properly ſo called, lies between the 38th and 41ſt degrees of north latitude. It was bounded by Pontus on the north, Lycaonia and part of Armenia Major on the ſouth, Galatia on the weſt, and by Euphrates and part of Armenia Minor on the eaſt. The firſt king of Cappadocia we read of in hiſtory was Pharnaces, who was preferred to the crown by Cyrus king of Perſia, who gave him his ſiſter Atoſſa in marriage. This is all we find recorded of him, except that he was killed in a war with the Hyrcanians. After him came a ſucceſſion of eight kings, of whom we know ſcarce any thing but that they continued faithful to the Perſian intereſt. In the time of Alexander the Great, Cappadocia was governed by Ariarathes II. who, notwithſtanding the vaſt conqueſts and fame of the Macedonian monarch, continued unſhaken in his fidelity to the Perſians. Alexander was prevented by death from invading his dominions; but Perdiccas marching againſt him with a powerful and well diſciplined army, diſperſed his forces, and having taken Ariarathes himſelf priſoner, crucified him, with all thoſe of the royal blood whom he could get into his power. Diodorus tells us that he was killed in the battle. He is ſaid to have reigned 82 years. His ſon Ariarathes III. having eſcaped the general ſlaughter of the royal family, fled into Armenia, where he lay concealed, till the civil diſſenſions which aroſe among the Macedonians gave him a fair opportunity of recovering his paternal kingdom. Amyntas, at that time the governor of Cappadocia, oppoſed him: but being defeated in a pitched battle, the Macedonians were obliged to abandon all the ſtrong holds. Ariarathes, after a long and peaceable reign, left his kingdom to his ſon Ariaramnes II. He applied himſelf more to the arts of peace than war, in conſequence of which Cappadocia flouriſhed greatly during his reign. He was ſucceeded by his ſon Ariarathes IV. who

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who proved a very warlike prince, and having overcome Arſaces, founder of the Parthian monarchy, conſiderably enlarged his own dominions.

He was ſucceeded by Ariarathes V. who marrying the daughter of Antiochus the Great, entered into an alliance with that prince againſt the Romans; but Antiochus being defeated, the king of Cappadocia was obliged to ſue for peace, which he obtained, after having paid 200 talents by way of fine, for taking up arms againſt the people of Rome. He afterwards aſſiſted the republic with men and money againſt Perſeus king of Macedon, on which account he was by the ſenate honoured with the title of the *friend and ally of the Roman people*. He left the kingdom in a very flouriſhing condition to his ſon Mithridates, who on his acceſſion took the name of Ariarathes VI.

This prince (ſurnamed *Philopater*, from the filial reſpect and love he ſhowed his father from his very infancy) immediately renewed the alliance with Rome. Out of mere good-nature he reſtored Mithrobuzanes ſon to Ladriades king of the Leſſer Armenia to his father's kingdom, though he foreſaw that the Armenians would lay hold of that opportunity to join Artaxias, who was then on the point of invading Cappadocia. Theſe differences, however, were ſettled before they came to an open rupture, by the Roman legates; and Ariarathes ſeeing himſelf thus delivered from an impending war by the mediation of the republic, preſented the ſenate with a golden crown, and offered his ſervice wherever they thought proper to employ him. The ſenate in return ſent him a ſtaff, and chair of ivory; which were preſents uſually beſtowed on thoſe only whom they looked upon as attached to their intereſt. Not long before this, Demetrius Soter king of Syria had offered Ariarathes his ſiſter in marriage, the widow of Perſeus king of Macedon: but this offer the king of Cappadocia was obliged to decline for fear of offending the Romans; and his ſo doing was in the higheſt degree acceptable to the republic, who reckoned him among the chief of her allies. Demetrius, however, being greatly incenſed at the ſlight put upon his ſiſter, ſet up a pretender to the throne, one Orophernes, a ſuppoſititious, or, as others call him, a natural ſon of the deceaſed king. The Romans ordered Eumenes king of Pergamus to aſſiſt Ariarathes with all his forces: which he did, but to no purpoſe; for the confederates were overthrown by Demetrius, and Ariarathes was obliged to abandon the kingdom to his rival. This happened about 159 years before Chriſt, and the uſurper immediately diſpatched ambaſſadors to Rome with a golden crown. The ſenate declined accepting the preſent, till they heard his pretenſions to the kingdom; and this Orophernes, by ſuborned witneſſes, made appear ſo plain, that the ſenate decreed that Ariarathes and he ſhould reign as partners; but next year, Orophernes was driven out by Attalus brother to Eumenes, and his ſucceſſor to the kingdom of Pergamus.

Ariarathes, being thus reſtored, immediately demanded of the Priennians 400 talents of gold which Orophernes had depoſited with them. They honeſtly replied, that as they had been truſted with the money by Orophernes, they could deliver it to none but himſelf, or ſuch as came in his name. Upon this, the king entered their territories with an army, deſtroying all with fire and ſword. The Priennians, however, ſtill perſevered in their integrity; and though their city was beſieged by the united forces of Ariarathes and Attalus, not only made an obſtinate defence, but found means to reſtore the ſum to Orophernes. At laſt they applied to the Romans for aſſiſtance, who enjoined the two kings to raiſe the ſiege, under pain of being declared enemies to the republic. Ariarathes immediately obeyed; and marching his army into Aſſyria, joined Alexander Epiphanes againſt Demetrius Soter, by whom he had been formerly driven out of his kingdom. In the very firſt engagement Demetrius was ſlain, and his army entirely diſperſed, Ariarathes having on that occaſion given uncommon proofs of his courage and conduct. Some years after, a war breaking out between the Romans and Ariſtonicus who claimed the kingdom of Pergamus in right of his father, Ariarathes joined the former, and was ſlain in the ſame battle in which P. Craſſus proconſul of Aſia was taken, and the Roman army cut in pieces. He left ſix ſons by his wife Laodice, on whom the Romans beſtowed Lycaonia and Cilicia. But Laodice, fearing leſt her children, when they came of age, ſhould take the government out of her hands, poiſoned five of them, the youngeſt only having eſcaped her cruelty by being conveyed out of the kingdom. The queen herſelf was ſoon after put to death by her ſubjects, who could not bear her cruel and tyrannical government.

Laodice was ſucceeded by Ariarathes VII. who, ſoon after his acceſſion, married another Laodice, daughter of Mithridates the Great, hoping to find in that prince a powerful friend to ſupport him againſt Nicomedes king of Bithynia, who laid claim to part of Cappadocia. But Mithridates inſtead of aſſiſting, procured one Gordius to poiſon his unhappy ſon-in-law; and, on his death, ſeized the kingdom, under pretence of maintaining the rights of the Cappadocians againſt Nicomedes, till the children of Ariarathes were in a condition to govern the kingdom. The Cappadocians at firſt fancied themſelves obliged to their new protector; but, finding him unwilling to reſign the kingdom to the lawful heir, they roſe up in arms, and, driving out all the garriſons placed by Mithridates, placed on the throne Ariarathes VIII. eldeſt ſon of their deceaſed king.

The new prince found himſelf immediately engaged in a war with Nicomedes; but, being aſſiſted by Mithridates, not only drove him out of Cappadocia, but ſtripped him of a great part of his hereditary dominions. On the concluſion of the peace, Mithridates, ſeeking for ſome pretence to quarrel with Ariarathes, inſiſted upon his recalling Gordius, who had murdered his father; which being rejected with abhorrence, a war enſued. Mithridates took the field firſt, in hopes of over-running Cappadocia before Ariarathes could be in a condition to make head againſt him; but, contrary to his expectation, he was met on the frontiers by the king of Cappadocia with an army no way inferior to his own. Hereupon he invited Ariarathes to a conference; and, in ſight of both armies, ſtabbed him with a dagger, which he had concealed under his garment. This ſtruck ſuch terror into the Cappadocians, that they immediately diſperſed, and gave Mithridates an opportunity of poſſeſſing himſelf of the kingdom without the leaſt oppoſition. The Cappadocians, however, not able to endure the tyranny of his prefects, ſoon

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ſhook off the yoke; and recalling the king's brother, who had fled into the province of Aſia, proclaimed him king. He was ſcarce ſeated on the throne, however, before Mithridates invaded the kingdom at the head of a very numerous army, and having drawn Ariarathes to a battle, defeated his army with great ſlaughter, and obliged him to abandon the kingdom. The unhappy prince ſoon after died of grief; and Mithridates beſtowed the kingdom on his ſon, who was then but eight years old, giving him alſo the name of *Ariarathes*. But Nicomedes Philopater king of Bithynia, fearing leſt Mithridates, having now got poſſeſſion of the whole kingdom of Cappadocia, ſhould invade his territories, ſuborned a youth to paſs himſelf for the third ſon of Ariarathes, and to preſent to them a petition in order to be reſtored to his father's kingdom. With him he ſent to Rome Laodice, ſiſter of Mithridates, whom he had married after the death of her former huſband Ariarathes. Laodice declared before the ſenate, that ſhe had three ſons by Ariarathes, and that the petitioner was one of them; but that ſhe had been obliged to keep him concealed, leſt he ſhould undergo the ſame fate with his brothers. The ſenate aſſured him that they would at all events reinſtate him in his kingdom. But, in the mean time, Mithridates having notice of theſe tranſactions, diſpatched Gordius to Rome, to undeceive the ſenate, and to perſuade them that the youth to whom he had reſigned the kingdom of Cappadocia was the lawful ſon of the late king, and grandſon to Ariarathes who had loſt his life in the ſervice of the Romans againſt Ariſtonicus. This unexpected embaſſy put the ſenate upon enquiring more narrowly into the matter, whereby the whole plot was diſcovered; upon which Mithridates was ordered to reſign Cappadocia, and the kingdom was declared free. The Cappadocians, however, in a ſhort time ſent ambaſſadors to Rome, acquainting the ſenate that they could not live without a king. This greatly ſurpriſed the Romans, who had ſuch an averſion to royal authority; but they gave them leave to elect a king of their own nation. As the family of Pharnaces was now extinct, the Cappadocians choſe Ariobarzanes; and their choice was approved by the ſenate, he having on all occaſions ſhown himſelf a ſteady friend to the Romans.

Ariobarzanes had ſcarce taken poſſeſſion of his kingdom when he was driven out by Tigranes king of Armenia; who reſigned Cappadocia to the ſon of Mithridates, in purſuance of an alliance previouſly concluded between the two parties. Ariobarzanes fled to Rome; and, having engaged the ſenate in his cauſe, he returned into Aſia with Sylla, who was enjoined to reſtore him to his kingdom. This was eaſily performed by Sylla, who, with a ſmall body of troops, routed Gordius who came to meet him on the borders of Cappadocia at the head of a numerous army. Sylla, however, had ſcarce turned his back, when Ariobarzanes was again driven out by Ariarathes the ſon of Mithridates, on whom Tigranes had beſtowed the kingdom of Cappadocia. This obliged Sylla to return into Aſia, where he was attended with his uſual ſucceſs, and Ariobarzanes was again placed on the throne. After the death of Sylla, he was the third time forced by Mithridates to abandon his kingdom; but Pompey, having entirely defeated Mithridates near mount Stella, reſtored Ariobarzanes to his throne, and rewarded him for his ſervices during the war, with the provinces of Sophene, Gordiene, and great part of Cilicia. The king, however, being now advanced in years, and deſirous of ſpending the remainder of his life in eaſe, reſigned the crown to his ſon Ariobarzanes, in preſence of Pompey; and never afterwards troubled himſelf with affairs of ſtate. Cappadocia.

Ariobarzanes II. proved no leſs faithful to the Romans than his father had been. On the breaking out of the civil war between Cæſar and Pompey, he ſided with the latter; but after the death of Pompey, he was received into favour by Cæſar, who even beſtowed upon him great part of Armenia. While Cæſar was engaged in a war with the Egyptians, Pharnaces king of Pontus invaded Cappadocia, and ſtripped Ariobarzanes of all his dominions; but Cæſar, having defeated Pharnaces, reſtored the king of Cappadocia, and honoured him with new titles of friendſhip. After the murder of Cæſar, Ariobarzanes, having refuſed to join Brutus and Caſſius, was by them declared an enemy to the republic, and ſoon after taken priſoner and put to death. He was ſucceeded by his brother Ariobarzanes III. who was by Marc Anthony deprived both of his kingdom and life; and in him ended the family of Ariobarzanes.

Archelaus, the grandſon of that general of the ſame name who commanded againſt Sylla in the Mithridatic war, was by Marc Anthony placed on the throne of Cappadocia, though nowiſe related either to the family of Pharnaces or Ariobarzanes. His preferment was entirely owing to his mother Glaphyra, a woman of great beauty, but of a looſe behaviour, who, in return for her compliance with the deſires of Anthony, obtained the kingdom of Cappadocia for her ſon. In the war between Auguſtus and Anthony, he joined the latter; but at the interceſſion of the Cappadocians, was pardoned by the emperor. He afterwards received from him Armenia the Leſſer, and Cilicia Trachæa, for having aſſiſted the Romans in clearing the ſeas of pirates who greatly infeſted the coaſts of Aſia. He contracted a ſtrict friendſhip with Herod the Great, king of Judæa; and even married his daughter Glaphyra to Alexander, Herod's ſon. In the reign of Tiberius, Archelaus was ſummoned to appear before the ſenate; for he had always been hated by that emperor, becauſe in his retirement at Rhodes he had paid him no ſort of reſpect. This had proceeded from no averſion in him to Tiberius, but from the warning given Archelaus to his friends at Rome. For Caius Cæſar, the preſumptive heir to the empire, was then alive, and had been ſent to compoſe the differences of the eaſt, whence the friendſhip of Tiberius was then looked upon as dangerous. But when he came to the empire, Tiberius, remembering the diſreſpect ſhown him by Archelaus, enticed the latter to Rome by means of letters from Livia, who promiſed him her ſon Tiberius's pardon, provided he came in perſon to implore it. Archelaus obeyed the ſummons, and haſtened to Rome; where he was received by the emperor with great wrath and contempt, and ſoon after accuſed as a criminal in the ſenate. The crimes of which he was accuſed were mere fictions; but his concern at ſeeing himſelf treated as a malefactor was ſo great, that he died ſoon after of grief, or, as others ſay, laid violent

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CAPRA. Plate CXXI.

A. Bell Prin. Wal. Sculptor fecit.

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Cappadocia.

lent hands on himſelf. He is ſaid to have reigned 50 years.

On the death of Archelaus, the kingdom of Cappadocia was reduced to a Roman province, and governed by thoſe of the equeſtrian order. It continued ſubject to the Romans till the invaſion of the eaſtern empire by the Turks, to whom it is now ſubject, but has no diſtinguiſhing modern name. In what was anciently called *Cappadocia*, however, the Turks have four Beglerbeglics, called *Siwas*, *Trebizond*, *Maraſch*, and *Cogni*.

In the time of the Romans, the inhabitants of Cappadocia bore ſo bad a character, and were reputed ſo vicious and lewd, that, among the neighbouring nations, a wicked man was emphatically called a *Cappadocian*. In after ages, however, their lewd diſpoſition was ſo corrected and reſtrained by the pure doctrines of Chriſtianity, that no country whatever has produced greater champions of the Chriſtian religion, or given to the church prelates of more unblemiſhed characters.

We have now no ſyſtem of the Cappadocian laws, and ſcarce wherewithal to form any particular idea of them. As to their commerce, they carried on a conſiderable trade in horſes, great numbers of which were produced in their country; and we read of them in Scripture as frequenting the fairs of Tyre with this commodity. As Cappadocia abounded with mines of ſilver, braſs, iron, and alum, and afforded great ſtore of alabaſter, cryſtal, and jaſper, it is probable that they might ſupply the neighbouring countries with theſe commodities.

The religion of the ancient Cappadocians was much the ſame with that of the Perſians. At Comana there was a rich and ſtately temple dedicated to Bellona; whoſe battles the prieſts and their attendants uſed to repreſent on ſtated days, cutting and wounding each other as if ſeized with an enthuſiaſtic fury. No leſs famous and magnificent were the temples of Apollo Catanius, and of Jupiter: the laſt of which had 3000 ſacred ſervants, or religious votaries. The chief prieſt was next in rank to that of Comana; and, according to Strabo, had an yearly revenue of 15 talents. Diana Perſica was worſhipped in a city called *Caſtabella*, where women, devoted to the worſhip of that goddeſs, were reported to tread barefooted on burning coals, without receiving any hurt. The temples of Diana at Dioſpolis, and of Anias at Zela, were likewiſe held in great veneration both by the Cappadocians and Armenians, who flocked to them from all parts. In the latter were tendered all oaths in matters of conſequence; and the chief among the prieſts was no way inferior in dignity, power, and wealth, to any in the kingdom; having a royal attendance, and an unlimited authority over all the inferior ſervants and officers of the temple. The Romans, who willingly adopted all the ſuperſtitions and ſuperſtitious rites of the nations they conquered, greatly increaſed the revenues of this and other temples; conferring the prieſthood on ſuch as they thought moſt fit for carrying on their deſigns.—We are told that human ſacrifices were offered at Comana; and that this barbarous cuſtom was brought by Oreſtes and his ſiſter Iphigenia from Taurica Scythica, where men and women were immolated to Diana. But this cuſtom, if ever it obtained in Cappadocia, was aboliſhed in the times of the Romans. Cappanus ‖ Capra.

CAPPANUS, a name given by ſome authors to a worm that adheres to and gnaws the bottoms of ſhips; to which it is extremely pernicious, eſpecially in the Eaſt and Weſt Indies: to prevent this, ſeveral ſhips have lately been ſheathed with copper; the firſt trial of which was made on his majeſty's frigate the Alarm.

CAPPARIS, in botany: A genus of the monogynia order, belonging to the polyandria claſs of plants; and in the natural method ranking under the 25th order, *Putaminea*. The calyx is tetraphyllous and coriaceous; there petals are four; the ſtamina are long; the fruit is a berry, carnous, unilocular, and pedunculated, or furniſhed with a foot-ſtalk.

There are ſeven ſpecies. The ſpinoſa, or common caper, is a low ſhrub, generally growing out of the joints of old walls, the fiſſures of rocks, and amongſt rubbiſh, in moſt of the warm parts of Europe: it hath woody ſtalks, which ſend out many lateral ſlender branches; under each of theſe are placed two ſhort crooked ſpines, between which and the branches come out the footſtalks of the leaves, which are ſingle, ſhort, and ſuſtain a round ſmooth entire leaf. At the intermediate joints, between the branches, come out the flowers on long footſtalks; before theſe expand, the bud with the empalement is gathered for pickling. Thoſe which are laſt expand in form of a ſingle roſe, having five large white petals, which are roundiſh and concave; in the middle are placed a great number of long ſtamina, ſurrounding a ſtyle which riſes above them, and crowned with an oval germen, which afterwards becomes a capſule filled with kidney-ſhaped ſeeds.

Culture. This plant is very difficultly preſerved in Britain: it delights to grow in crevices of rocks, old walls, &c. and always thrives beſt in an horizontal poſture; ſo that, when planted either in pots or in the full ground, they ſeldom thrive, though they may be kept alive for ſome years. They are propagated by ſeeds in the warm parts of Europe, but very ſeldom in Britain.

Uſes. The buds, pickled with vinegar, &c. are brought to Britain annually from Italy and the Mediterranean. They are ſuppoſed to excite appetite and aſſiſt digeſtion; and to be particularly uſeful as detergents and aperients in obſtructions of the liver and ſpleen.

CAPRA, or GOAT, a genus of quadrupeds belonging to the order of pecora. The horns are hollow, turned upwards, erect, and ſcabrous. There are eight fore-teeth in the under jaw, and none in the upper; and they have no dog-teeth. This genus conſiſts of 14 ſpecies, viz. Plates CXXI, CXXII, CXXIII, CXXIV.

1. The HIRCUS, or common goat, with arched carinated horns, and a long beard. It is a native of the eaſtern mountains.

The goat is an animal of more ſagacity than the ſheep. Inſtead of having an antipathy at mankind, they voluntarily mingle with them, and are eaſily tamed. Even in uninhabited countries, they betray no ſavage diſpoſitions. In the year 1698, an Engliſh veſſel having put in to the iſland of Bonaviſta, two negroes came aboard, and offered gratis to the captain as many

Capra. many goats as he pleaſed. The captain expreſſed his aſtoniſhment at this offer. But the negroes replied, that there were only 12 perſons in the iſland; that the goats had multiplied to ſuch a degree, that they were become extremely troubleſome; and that, inſtead of having any difficulty in catching them, they followed the men wherever they went, and were ſo obſtinately officious, that they could not get quit of them upon any account whatever.

Goats are ſenſible of careſſes, and capable of a conſiderable degree of friendſhip. They are ſtronger, more agile, and leſs timid, than ſheep. They have a lively, capricious, and wandering diſpoſition; are fond of high and ſolitary places, and frequently ſleep upon the very points of rocks. They are more eaſily ſupported than any other animal of the ſame ſize; for there is hardly an herb, or the bark of a tree, which they will not eat with pleaſure. Neither are they liable to ſo many diſeaſes as ſheep: they can bear heat and cold with leſs inconvenience. The actions and movements of animals depend more upon the force and variety of their ſenſations than the ſtructure of their bodies: the natural inconſtancy or fanciſulneſs of goats is accordingly expreſſed by the irregularity of their actions: they walk, ſtop ſhort, run, jump, ſhow and hide themſelves, as it were by mere caprice, and without any other cauſe than what ariſes from the natural vivacity of their temper.

The buck will copulate when he is a year old, and the female when ſhe is ſeven months. But as this is rather premature, they are generally reſtrained till they be 18 months or two years. The buck is bald, beautiful, and vigorous; one is ſufficient to ſerve 150 females. A buck for propagation ſhould be large, handſome, and about two years of age; his neck ſhould be ſhort and fleſhy; his head ſlender; his ears pendent; his thighs thick; his limbs firm; his hair black, thick, and ſoft; and his beard ſhould be long and buſhy. The females are generally in ſeaſon from September to the end of November. At that time the males drive whole flocks of the females continually from place to place, and fill the whole atmoſphere around them with their ſtrong diſagreeable odour; which, though as diſagreeable as aſaſœtida itſelf, yet may be conducive to prevent many diſtempers, and to cure nervous and hyſterical ones. Horſes are ſuppoſed to be much refreſhed by it; on which account many people keep a he-goat in their ſtuds or ſtables.

Goats go with young four months and an half, and bring forth from the latter end of February to the latter end of April: having only two teats, they generally bring forth but one or two young; ſometimes three; and in good warm paſtures there have been inſtances, tho' rare, of their bringing forth four at a time. They continue fruitful till they are ſeven years of age; but a buck goat is ſeldom kept after he is five. Both young and old are affected by the weather; a rainy ſeaſon makes them thin, a dry ſunny one makes them fat and blithe: their exceſſive venery prevents their longevity; for in our climate they ſeldom live above 11 or 12 years.

Though the food of this animal coſts next to nothing, as it can ſupport itſelf even upon the moſt barren mountains, their produce is valuable. The whiteſt wigs are made of their hair; for which purpoſe that of the he-goat is moſt in requeſt: the whiteſt and cleareſt is ſelected from that which grows on the haunches, where it is longeſt and thickeſt: a good ſkin well haired is ſold for a guinea; though a ſkin of bad hue, and ſo yellow as to baffle the barber's ſkill to bleach, will not fetch above 18d. or 2s. The Welſh goats are far ſuperior in ſize, and in length and fineneſs of hair, to thoſe of other mountainous countries. Their uſual colour is white: thoſe of France and the Alps are ſhort-haired, reddiſh, and the horns ſmall. Bolſters made from the hair of a goat were in uſe in the days of Saul, as appears from 1 Samuel xix. 13. The ſpecies very probably was the Angora goat, which is only found in the Eaſt; and whoſe ſoft and ſilky hair ſupplied a moſt luxurious couch.

The ſuet of the goat is in great eſteem as well as the hair. Many of the inhabitants of Caernarvonſhire ſuffer theſe animals to run wild on the rocks in winter as well as in ſummer; and kill them in October for the ſake of their fat, either by ſhooting them with bullets, or by running them down with dogs like deer. The goats killed for this purpoſe are about four or five years old. Their ſuet will make candles far ſuperior in whiteneſs and goodneſs to thoſe made from that of the ſheep or the ox, and accordingly brings a much greater price in the market; nor are the horns without their uſe, the country people making of them excellent handles for tucks and pen-knives. The ſkin is peculiarly well adapted for the glove manufactory, eſpecially that of the kid: abroad it is dreſſed and made into ſtockings, bedticks, bed-hangings, ſheets, and even ſhirts. In the army it covers the horſeman's arms, and carries the foot-ſoldier's proviſions. As it takes a dye better than any other ſkin, it was formerly much uſed for hangings in the houſes of people of fortune, being ſuſceptible of the richeſt colours, and when flowered and ornamented with gold and ſilver became an elegant and ſuperb furniture.

The fleſh is of great uſe to the inhabitants of thoſe countries which abound with goats; and affords them a cheap and plentiful proviſion in the winter-months, when the kids are brought to market. The haunches of the goat are frequently ſalted and dried, and ſupply all the uſes of bacon: this by the Welſh is called *coch yr wden*, or hung veniſon. The meat of a ſplayed goat of ſix or ſeven years old (which is called *hyſr*) is reckoned the beſt; being generally very fat and ſweet. This makes an excellent paſty; goes under the name of *rock veniſon*; and is little inferior to that of the deer.

The milk of the goat is ſweet, nouriſhing, and medicinal. It is an excellent ſucedaneum for aſs's milk; and has (with a tea-ſpoonful of hartſhorn drunk warm in bed in the morning, and at four in the afternoon, and repeated for ſome time) been a cure for phthiſical people before they were gone too far. In ſome of the mountainous parts of Scotland and Ireland, the milk is made into whey, which has done wonders in this and other caſes where coolers and reſtoratives are neceſſary; and to many of thoſe places there is as great a reſort of patients of all ranks, as there is in England to the Spas or baths. It is not ſurpriſing that the milk of this animal is ſo ſalutary, as it browſes only on the tops, tendrils, and flowers, of the mountain ſhrubs, and medicinal herbs; rejecting the groſſer parts. The blood of

Capra.

Capra. of the he-goat, dried, was formerly reckoned a ſpecific in pleuriſies, and is even taken notice of by Dr Mead for this purpoſe; but is now deſervedly neglected. Cheeſe made of goat's milk is much valued in ſome of our mountainous countries, when kept to a proper age; but has a peculiar taſte and flavour.

a. The Angora goat is a variety that is found only in the tract that ſurrounds Angora and Beibazar, towns in Aſiatic Turky, for the diſtance of three or four days journey. Strabo ſeems to have been acquainted with this kind; for ſpeaking of the river Halys, he ſays, that there are goats found near it that are not known in other parts. In the form of their body they differ from the common goat, being ſhorter; their legs too are ſhorter, their ſides broader and flatter, and their horns ſtraighter; but the moſt valuable characteriſtic is their hair, which is ſoft as ſilk, of a gloſſy ſilvery whiteneſs, and curled in locks of eight or nine inches in length. This hair is the baſis of our fine camlets, and imported to England in form of thread; for the Turks will not permit it to be exported raw, for a reaſon that does them honour; becauſe it ſupports a multitude of poor, who live by ſpinning it. The goat-herds of Angora and Beibazar are extremely careful of their flocks, frequently combing and waſhing them. It is obſerved, that if they change their climate and paſture, they loſe their beauty: we therefore ſuſpect that the deſign of Baron Alſtroemer, a patriotic Swede, turned out fruitleſs, who imported ſome into his own country, to propagate the breed for the ſake of their hair.

b. The *Capricorn* of Buffon is another variety, having ſhort horns, the ends turned forwards, their ſides annulated, and the rings more prominent before than behind.

II. The IBEX, or wild-goat, is the ſtock from whence the tame ſpecies ſprung. It has large knotty horns reclined upon its back, is of a yellowiſh colour, and its beard is black. The females are leſs, and have ſmaller horns, more like thoſe of a common ſhe-goat, and with few knobs on the upper ſurface: they bring one young one, ſeldom two, at a birth. They inhabit the higheſt Alps of the Griſon's country and the Valais; are alſo found in Crete. They are very wild, and difficult to be ſhot, as they always keep on the higheſt points. Their chace is exceedingly dangerous: being very ſtrong, they often tumble the incautious huntſman down the precipices, except he has time to lie down, and let the animals paſs over him. They are ſaid not to be long-lived.

III. The MAMBRINA, or Syrian goat, with reclined horns, pendant ears, and a beard. It is a native of the Eaſt. Their ears are of a vaſt length; from one to two feet; and ſometimes ſo troubleſome, that the owners cut off one to enable the animal to feed with more eaſe. Theſe animals ſupply Aleppo with milk.

IV. The RUPICAPRA, or chamois-goat, has erect and hooked horns. The body is of a duſky red colour; but the front, top of the head, gullet, and inſide of the ears, are white; the under part of the tail is blackiſh; and the upper lip is a little divided. It inhabits the Alps of Dauphine, Switzerland, and Italy; the Pyrenean mountains; Greece, and Crete: does not dwell ſo high in the hills as the ibex, and is found in greater numbers.

The chamois is of the ſize of a domeſtic goat, and Capra. his hair is as ſhort as that of a hind. His vivacity is delightful, and his agility truly admirable. Theſe animals are very ſocial among themſelves: We find them going in pairs, or in little flocks of from three to twenty; and ſometimes we ſee from 60 to 100 of them diſperſed in different flocks along the declivity of the ſame mountain. The large males keep at a diſtance from the reſt, except in the rutting ſeaſon, when they join the females, and beat off all the young. At this period, their ardour is ſtill ſtronger than that of the wild bucks. They bleat often, and run from one mountain to another. Their ſeaſon of love is in the months of October and November, and they bring forth in March and April. A young female takes the male at the age of 18 months. The females bring forth one, but rarely two, at a time. The young follow their mothers till October, if not diſperſed by the hunters or the wolves. We are aſſured that they live between 20 and 30 years. Their fleſh is very good. A fat chamois goat will yield from 10 to 12 pounds of ſuet, which is harder and better than that of the goat. The blood of the chamois is extremely hot, and it is ſaid to have qualities and virtues nearly equal to thoſe of the wild goat. The hunters ſometimes mix the blood of the wild and chamois goats: At other times they ſell the blood of the wild goat for that of the chamois. The voice of the chamois is a very low and almoſt imperceptible kind of bleating, reſembling that of a hoarſe domeſtic goat. It is by this bleating that they collect together, particularly the mothers and their young. But, when alarmed, or when they perceive their enemy, or any thing the nature of which they cannot diſtinguiſh, they advertiſe one another by a kind of whiſtling noiſe. The ſight of the chamois is very penetrating, and his ſenſe of ſmelling is acute. When he ſees a man diſtinctly, he ſtops for ſome time, and flies off when he makes a nearer approach. His ſenſe of hearing is equally acute as that of ſmelling; for he hears the ſmalleſt noiſe. When the wind blows in the direction between him and a man, he will perceive the ſcent at the diſtance of more than half a league. Hence, when he ſmells or hears any thing which he cannot ſee, he whiſtles or blows with ſuch force, that the rocks and foreſts re-echoe the ſound. If there are many of them near, they all take the alarm. This whiſtling is as long as the animal can blow without taking breath. It is at firſt ſharp, and turns flat at the end. The chamois then ſtops for a moment, looks round on all ſides, and begins whiſtling afreſh, which he continues from time to time. His agitation is extreme. He ſtrikes the earth with his feet; he leaps upon the higheſt ſtones he can find; he again looks round, leaps from one eminence to another; and, when he diſcovers any thing, he flies off. The whiſtling of the male is ſharper than that of the female. This whiſtling is performed through the noſtrils, and conſiſts of a ſtrong blowing, ſimilar to the ſound which a man may make by fixing his tongue to the palate, with his teeth nearly ſhut, his lips open, and ſomewhat extended, and blowing long and with great force. The chamois feeds on the fineſt herbs. He ſelects the moſt delicate parts of plants, as the flowers and the tenderſt buds. He is very fond of ſome aromatic herbs, particularly of the carline thiſtle and genipay, which

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Capra. are the hotteſt plants that grow in the Alps. When he eats green herbs, he drinks very little. He is very fond of the leaves and tender buds of ſhrubs. He ruminates like the common goat. The food he uſes ſeems to announce the heat of his conſtitution. This animal is admired for his large round eyes, whoſe ſize correſponds with the vivacity of his diſpoſition. His head is adorned with two ſmall horns, from half a foot to nine inches in length. Their colour is a fine black, and they are placed on the front nearly between his eyes; and, inſtead of being reflected backward, like thoſe of other animals, they advance forward above the eyes, and bend backward at the points, which are extremely ſharp. He adjuſts his ears moſt beautifully to the points of his horns. Two tufts of black hair deſcend from his horns to the ſides of his face. The reſt of the head is of a yelloviſh white colour, which never changes. The horns of the chamois are uſed for the heads of canes. Thoſe of the female are ſmaller and leſs crooked. The ſkin of the chamois, when dreſſed, is very ſtrong, nervous, and ſupple, and makes excellent riding-breeches, gloves, and veſts. Garments of this kind laſt long, and are of great uſe to manufacturers. The chamois goats are ſo impatient of heat, that, in ſummer, they are only to be found under the ſhades of caverns in the rocks, among maſſes of congealed ſnow and ice, or in elevated foreſts on the northern declivities of the moſt ſcabrous mountains, where the rays of the ſun ſeldom penetrate. They paſture in the mornings and evenings, and ſeldom during the day. They traverſe the rocks and precipices with great facility, where the dogs dare not follow them. There is nothing more worthy of admiration than to ſee theſe animals climbing or deſcending inacceſſible rocks. They neither mount nor deſcend perpendicularly, but in an oblique line. When deſcending, particularly, they throw themſelves down acroſs a rock which is nearly perpendicular, and of 20 or 30 feet in height, without having a ſingle prop to ſupport their feet. In deſcending, they ſtrike their feet three or four times againſt the rock, till they arrive at a proper reſting-place below. The ſpring of their tendons is ſo great, that, when leaping about among the precipices, one would imagine they had wings inſtead of limbs. It has been alleged by ſome, but without foundation, that the chamois, in climbing and deſcending rocks, ſupports himſelf by his horns. It is by the ſtrength and agility of his limbs that the chamois is enabled to climb and deſcend rocks. His legs are very free and tall; thoſe behind are ſomewhat longer, and always crooked, which favours their ſpringing to a great diſtance; and, when they throw themſelves from a height, the hind legs receive the ſhock, and perform the office of two ſprings in breaking the fall. In great ſnows, and during the rigour of winter, the chamois goats inhabit the lower foreſts, and live upon pine leaves, the buds of trees, buſhes, and ſuch green or dry herbs as they can find by ſcratching off the ſnow with their feet. The foreſts that delight them moſt, are thoſe which are very full of rocks and precipices. The hunting of the chamois is very difficult and laborious. The mode moſt in uſe is to kill them by ſurpriſe. The hunters conceal themſelves behind rocks or large ſtones, taking care that the wind blows oppoſite to them, and, when a favourable opportunity occurs, ſhoot them with muſket-balls. They are likewiſe hunted in the ſame manner as ſtags and other animals, by poſting ſome of the hunters in narrow paſſages, while others beat about to raiſe the game. Men are preferable for this purpoſe to dogs; for dogs too quickly diſperſe the animals, who fly off ſuddenly to the diſtance of four or five leagues. Capra.

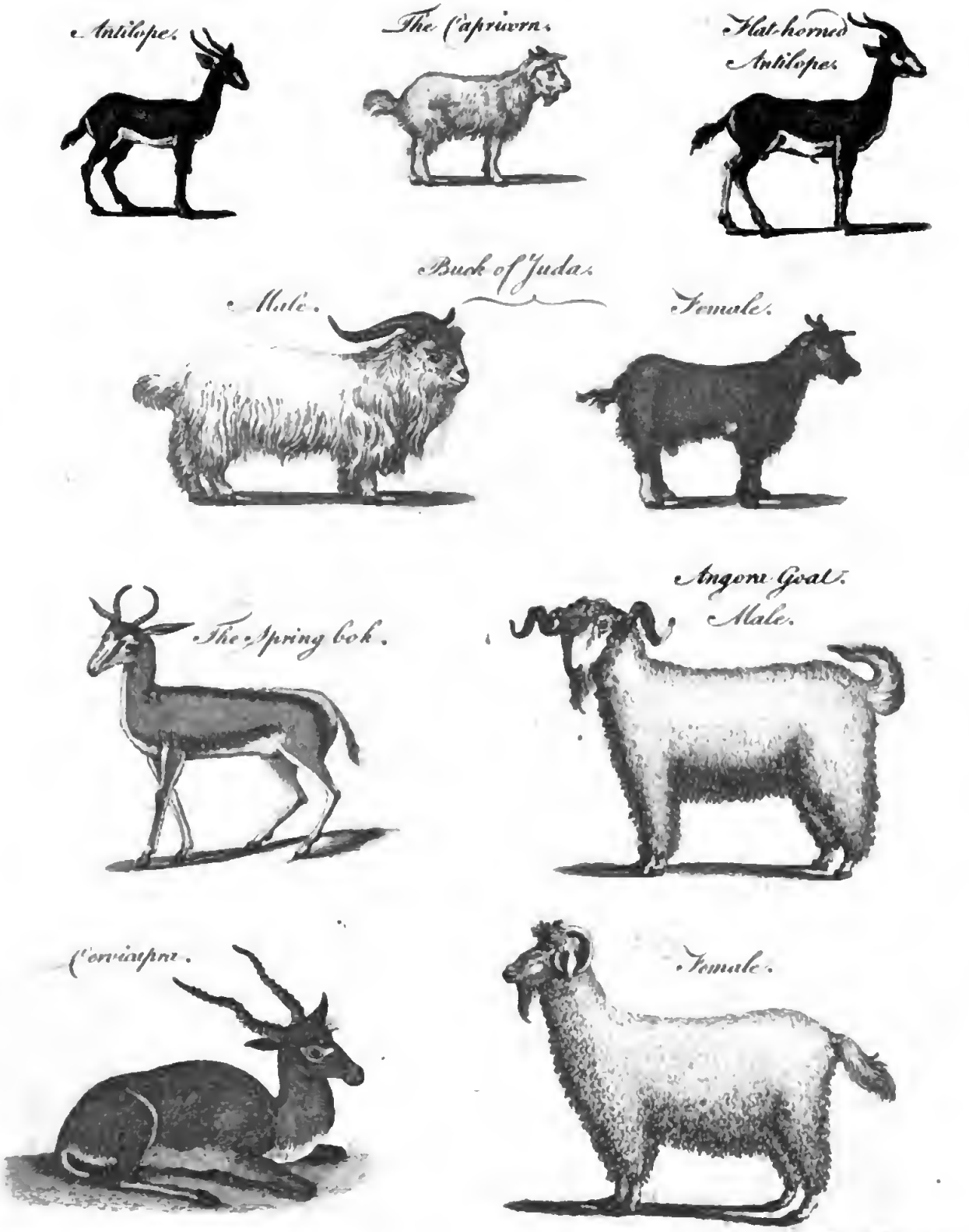
V. The DEPRESSA is an African goat, with ſmall depreſſed horns, bent inwards, lying on the head. It is about the ſize of a kid; and the hair is long and pendulous.

VI. The ARVARSA is likewiſe an African goat, with erect horns, and curved a little forwards. It is about the ſize of a kid of a year old. It inhabits Juda or Whidaw in Africa.

VII. The GAZELLA has long, erect, cylindrical horns, annulated near the baſe. It inhabits Egypt, the Cape, Arabia, the Levant, and India, dwelling in the plains.

VIII. The CERVICAPRA, with plated cylindrical horns, inhabits Barbary. The hair near the horns is longer than in any other part of the body. The females want horns. Mr Haſſelquiſt gives the following account of this ſpecies: "The cervicapra is larger, ſwifter, and wilder, than the common rock-goat, and can ſcarcely be taken without a falcon. It is met with near Aleppo. I have ſeen a variety of this which is common in the Eaſt, and the horns appear different; perhaps it is a diſtinct ſpecies. This animal loves the ſmoke of tobacco; and, when caught alive, will approach the pipe of the huntſman, though otherwiſe more timid than any animal. This is perhaps the only creature, beſides man, that delights in the ſmell of a poiſonous and ſtinking plant. The Arabians hunt it with a falcon (*falco gentilis*, Lin.) I had an excellent opportunity of ſeeing this ſport near Nazareth in Galilee. An Arab, mounted on a ſwift courſer, held the falcon in his hand, as huntſmen commonly do: when he eſpied the rock-goat on the top of a mountain, he let looſe the falcon, which flew in a direct line like an arrow, and attacked the animal; fixing the talons of one of his feet into the cheek of the creature, and the other into its throat, extending his wings obliquely over the animal; ſpreading one towards one of its ears, and the other to the oppoſite hip. The animal, thus attacked, made a leap twice the height of a man, and freed himſelf from the falcon: but being wounded, and loſing his ſtrength and ſpeed, he was again attacked by the falcon; which fixed the talons of both its feet into the throat of the animal, and held it faſt, till the huntſman coming up, took it alive, and cut its throat; the falcon drinking the blood as a reward for his labour. A young falcon, which was learning, was likewiſe put to the throat of the goat: by this means are young falcons taught to fix their talons in the throat of the animal, as being the propereſt part; for ſhould the falcon fix them in the creature's hip, or ſome other part of the body, the huntſman would not only loſe his game, but his falcon alſo: for the animal, roufed by the wound, which could not prove mortal, would run to the deſerts and the tops of the mountains, whither its enemy, keeping its hold, would be obliged to follow; and, being ſeparated from its maſter, muſt of courſe periſh."

IX. The



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Capra. IX. The BEZOARTICA, or bezoar goat, is bearded, and has cylindrical, arched, and wholly annulated horns. It is a native of Perſia. The bezoar is found in one of its ſtomachs, called *abomaſus*. See BEZOAR and ABOMASUS.

X. The TARTARICA, or ſaiga of Buffon, has cylindrical, ſtraight, annulated horns; the points inclining inward, the ends ſmooth; the other part ſurrounded with very prominent annuli; of a pale yellow colour, and the greateſt part ſemipellucid; the cutting teeth are placed ſo looſe in their ſockets, as to move with the leaſt touch. The male is covered with rough hair like the he-goat, and has a very ſtrong ſmell; the female is ſmoother. The hair on the bottom of the ſides and the throat is long, and reſembles wool; that on the ſides of the neck and head is hoary; the back and ſides of a dirty white; the breaſt, belly, and inſide of the thighs, of a ſhining white. The females are deſtitute of horns. Theſe animals inhabit all the deſerts from the Danube and Dnieper to the river Irtiſh, but not beyond. Nor are they ever ſeen to the north of 54 or 55 degrees of latitude. They are found therefore in Poland, Moldavia, about Mount Caucaſus, and the Caſpian Sea, and Siberia, in the dreary open deſerts, where ſalt-ſprings abound, feeding on the ſalt, the acrid and aromatic plants of theſe countries, and grow in the ſummer-time very fat: but their fleſh acquires a taſte diſagreeable to many people, and is ſcarcely eatable, until it is ſuffered to grow cold after dreſſing. The females go with young the whole winter; and bring forth in the northern deſerts in May. They have but one at a time; which is ſingular, as the numbers of theſe animals are prodigious. The young are covered with a ſoft fleece, like new-dropt lambs, curled and waved. They are regularly migratory. In the rutting-ſeaſon, late in autumn, they collect in flocks of thouſands, and retire into the ſouthern deſerts. In the ſpring they divide into little flocks, and return northward at the ſame time as the wandering Tartars change their quarters.

They very ſeldom feed alone; the males feeding promiſcuouſly with the females and their young. They rarely lie down all at the ſame time: but, by a providential inſtinct, ſome are always keeping watch; and when they are tired, they ſeemingly give notice to ſuch as have taken their reſt, who ariſe inſtantly, and as it were relieve the centinels of the preceding hours. They thus often preſerve themſelves from the attack of wolves, and from the ſurprize of the huntſmen. They are exceſſively ſwift, and will outrun the fleeteſt horſe or gre-hound; yet partly through fear (for they are the moſt timid of animals), and partly by the ſhortneſs of their breath, they are very ſoon taken. If they are but bit by a dog, they inſtantly fall down, nor will they even offer to riſe. In running they ſeem to incline on one ſide, and their courſe is ſo rapid that their feet ſeem ſcarcely to touch the ground. In a wild ſtate they ſeem to have no voice. When brought up tame, the young emit a ſhort ſort of bleating, like ſheep.

The males are moſt libidinous animals: the Tartars, who have ſufficient time to obſerve them, report that they will copulate twenty times together; and that this ability ariſes from their feeding on a certain herb, which has moſt invigorating powers. When taken young, they may eaſily be made tame; but if caught when at full age, are ſo wild and ſo obſtinate as to refuſe all food. When they die, their noſes are quite flaccid. Capra.

They are hunted for the ſake of their fleſh, horns, and ſkins, which are excellent for gloves, belts, &c. The huntſmen always approach them againſt the wind, leaſt they ſhould ſmell their enemy; they alſo avoid putting on red or white clothes, or any colours which might attract their notice. They are either ſhot, or taken by dogs; or by the black eagle, which is trained to this ſpecies of falconry. Their beſt ſeaſon is in September: at other times, the ſkins are penetrated by worms. The fat reſembles that of mutton; in taſte, like that of a buck: the head is reckoned the moſt delicate part.

XI. The AMMON, has ſemicircular, plain, white horns, and no beard. It is about the ſize of a ram, and is a native of Siberia.

XII. The ÆGAGAUS of Pallas, or Caucaſan goat, has ſmooth black horns, ſharply ridged on their upper parts, and hollowed on their outward ſides. No veſtiges of knots or rings, but on the upper ſurface are ſome wavy riſings; bend much back, and are much hooked at the end, approaching a little at the points. On the chin is a great beard, duſky, mixed with cheſnut. The forepart of the head is black, the ſides mixed with brown; the reſt of the animal grey, or grey mixed with ruſt-colour. Along the middle of the back, from the neck to the tail, is a black liſt; and the tail is black.

The female is either deſtitute of horns, or has very ſhort ones. In ſize it is ſuperior to the largeſt he-goats, but in form and agility reſembles a ſtag: yet Monardus compares it to the he-goat, and ſays that it has the feet of the goat. They inhabit the lower mountains of Caucaſus and Taurus, all Aſia Minor, and perhaps the mountains of India. They abound on the inhoſpitable hills of Laar and Khorazan in Perſia; and according to Munardus are alſo found in Africa. It is an animal of vaſt agility. Monardus was witneſs to the manner of its ſaving itſelf from injury by falling on its horns; for he ſaw that which he deſcribes leap from a high tower, precipitating itſelf on its horns; then ſpringing on its legs, and leaping about, without receiving the leaſt harm. This is one of the animals which yields the once-valued alexipharmic, the Bezoar-ſtone; which is a concretion formed of many coats, incruſting a nucleus of ſmall pebble, ſtones of fruits, bits of ſtraw, or buds of trees. The incruſting coats are created from the vegetable food of the animals, eſpecially the rich, dry, and hot herbs of the Perſian and Indian mountains. Its virtues are now exploded, and it is reckoned only an abſorbent, and that of the weakeſt kind.

XIII. The GNOU, with ſcabrous horns, and thick at the baſe, bending forward cloſe to the head, then ſuddenly reverting upwards. The mouth is ſquare; the noſtrils covered with broad flaps. From the noſe, half way up the front, is a thick oblong-ſquare bruſh of long ſtiff black hairs reflected upwards, on each ſide of which the other hairs are long, and point cloſely down the cheeks. Round the eyes are diſpoſed in a radiated form ſeveral ſtrong hairs. The neck is ſhort, and a little arched. On the top a ſtrong and upright mane, reaching from the horns beyond the ſhoulders. On

Capra. the chin is a long white beard; and on the gullet a very long pendulous bunch of hair. On the breaſt, and between the fore-legs, the hairs are very long and black. The tail reaches to the firſt joint of the legs, and is full of hair like that of a horſe, and quite white. The body is thick; and covered with ſmooth ſhort hair of a ruſt brown colour tipt with white. The legs are long, elegant, and ſlender, like thoſe of a ſtag. On each foot is only a ſingle ſpurious or hind hoof.—It is a ſtrange compound of animals: having a vaſt head like that of an ox; body and tail, like a horſe; legs like a ſtag; and the ſinus lacrymalis of an antelope. The ordinary ſize of it is about that of a common gallaway; the length of it being ſomewhat above five, and height of it rather more than four feet.—Theſe animals inhabit in great numbers the fine plains of the great Namaequas, far north of the Cape of Good Hope, extending from S. lat. 25. to 28. 42. where Africa ſeems at once to open its vaſt treaſures of hooſed quadrupeds. It is an exceedingly fierce animal: on the ſight of any body it uſually drops its head, and puts itſelf into an attitude of offence; and will dart with its horns againſt the pales of the incloſure towards the perſons on the outſide; yet it will afterwards take the bread which is offered. It will often go upon its knees, run ſwiftly in that ſingular poſture, and furrow the ground with its horns and legs. The Hottentots call it *Gnou* from its voice. It has two notes, one reſembling the bellowing of an ox, the other more clear. It is called an ox by the Europeans.

XIV. The DORCAS, or antelope, has cylindrical annulated horns, bent backward, contorted, and ariſing from the front between the eyes. It is a native of Africa and Mexico. Theſe animals are of a moſt elegant and active make; of a reſtleſs and timid diſpoſition; extremely watchful; of great vivacity; remarkably ſwift; exceedingly agile; and moſt of their bounding ſo light, ſo elaſtic, as to ſtrike the ſpectator with aſtoniſhment. What is very ſingular, they will ſtop in the middle of their courſe, for a moment gaze at their purſuers, and then reſume their flight.

As the chace of theſe animals is a favourite diverſion with the eaſtern nations, from that may be collected proofs of the rapid ſpeed of the antelope tribe. The gre-hound, the fleeteſt of dogs, is unequal in the courſe; and the ſportſman is obliged to call in the aid of the falcon trained to the work, to ſeize on the animal and impede its motions, to give the dogs time to overtake it. In India and Perſia a ſort of leopard is made uſe of in the chace: this is an animal that takes its prey, not by ſwiftneſs of foot, but by the greatneſs of its ſpringe, by motions ſimilar to that of the antelope; but ſhould the leopard fail in its firſt eſſay, the game eſcapes.

The fleetneſs of this animal was proverbial in the country it inhabited even in the earlieſt times: the ſpeed of Aſahel is beautifully compared to that of the Izebi; and the Gadites were ſaid to be as ſwift as the roes upon the mountains. The ſacred writers took their ſimiles from ſuch objects as were before the eyes of the people they addreſſed themſelves to. There is another inſtance drawn from the ſame ſubject: the diſciple raiſed to life at Joppa was ſuppoſed to have been called *Tabitha*, i. e. *Dorcas*, or the *Antelope*, from the beauty of her eyes; and this is ſtill a common Capra. compariſon in the eaſt: *Aine el Czazel*, or, "You have eyes of an Antelope," is the greateſt compliment that can be paid to a fine woman.

Some ſpecies of the antelopes form herds of 2000 or 3000, while others keep in ſmall troops of five or ſix. They generally reſide in hilly countries; though ſome inhabit plains: they often browſe like the goat, and feed on the tender ſhoots of trees, which gives their fleſh an excellent flavour. This is to be underſtood of thoſe that are taken in the chaſe; for thoſe that are fattened in houſes are far leſs delicious. The fleſh of ſome ſpecies are ſaid to taſte of muſk, which perhaps depends on the qualities of the plants they feed on.

Mr Pennant makes the antelope a diſtinct genus of animals, forming a link between the goat and the deer; with the firſt of which they agree in the texture of the horns, which have a core in them, and they never caſt them; with the laſt, in the elegance of their form, and great ſwiftneſs. He diſtinguiſhes ſeveral ſpecies, among which he ranks the *gazella*, the *cervicapra*, the *bezoartica*, and the *tartarica* of Linnæus, deſcribed above, VII. VIII. IX. X. with the *moſchus grimmia* of the ſame author. See MOSCHUS.

The other ſpecies of antelopes diſtinguiſhed by zoologiſts are:

1. Kevella of Pallas, or flat-horned antelope, has horns twelve inches long, flattened on their ſides, inclining firſt backwards, bending in the middle, and then reverting forwards at their ends, and annulated with from fourteen to eighteen rings: the upper ſide of the body is reddiſh brown; lower part and buttocks are white: the ſize equal to a ſmall roebuck. They inhabit Senegal; where they live in great flocks, are eaſily tamed, and are excellent meat.

2. The corine antelope, with very ſlender horns, ſix inches long, ſurrounded with circular *ruge*: on each ſide of the face is a white line; beneath that, is one of black: the neck, body, and flanks are tawny; belly and inſide of the thighs white: on the knees is a tuft of hair. It is leſs than a roebuck, and inhabits Senegal.

3. The nagor, or red antelope, with horns 5½ inches long; one or two ſlight rings at the baſe: ears much longer than the horns: hair ſtiff and bright; in all parts of a reddiſh colour, paleſt on the cheſt: tail very ſhort. Inhabits Senegal and the Cape; where it is very frequent, and is a common food.

4. The dama or ſwift antelope *(le Nangur*, Buff.), with round horns, eight inches long, reverting at their ends. The general colour is tawny; but this ſpecies varies in that particular. It inhabits Senegal; and is eaſily tamed. It is very ſwift: Ælian compares its flight to the rapidity of a whirlwind.

5. The elk-antelope of Sparman (Indian antelope of Pennant), has thick ſtraight horns, marked with two prominent ſpiral ribs near two thirds of their length, ſmooth towards their end; ſome above two feet long. The head is of a reddiſh colour, bounded on the cheeks by a duſky line. The forehead is broad; the noſe pointed. On the forehead is a ſtripe of long looſe hairs; and on the lower part of the dewlap, a large tuft of black hair. Along the neck and back, from head to tail, is a black ſhort mane: the reſt of the body is of a bluiſh grey, tinged with red. The tail does not reach to the firſt joint of the leg; is covered with ſhort ci-

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Capra. cinereous hair; and the end tufted with long black hairs. The hoofs are ſhort, ſurrounded at their junction with the legs by a circle of black hairs. The height to the ſhoulders is five feet. It is thick bodied and ſtrongly made; but the legs are ſlender. It wants the *ſinus lachrymalis*. The females are horned like the males.—The Caffres call this ſpecies *empoſoa* and *poſſo*. The Dutch of the Cape call it the *eland* or *elk*. M. de Buffon, by miſtake, calls this the *condous*, which he ought to have beſtowed on his *condoma*. It inhabits India, Congo, and the ſouthern parts of Africa. They live in herds; but the old males are often ſolitary. They grow very fat, eſpecially about the breaſt and heart: ſo that they are eaſily caught; and when purſued, will ſometimes fall dead in the chace. They are ſlow runners: when rouſed, always go againſt the wind, nor can the hunters (even if they front the herd) divert them from their courſe. The fleſh is fine-grained, very delicious, and juicy. The hide is tough: the Hottentots make tobacco-pipes of the horns.

6. The cervine antelope, or *antelope bubalis* of Pallas, with horns bending outward and backward, almoſt cloſe at their baſe, and diſtant at their points; twiſted and annulated; very ſtrong and black: the head is large, and like that of an ox: the eyes are placed very high, and near to the horns: the form of the body is a mixture of the ſtag and heifer; height to the top of the ſhoulders four feet: the tail is rather more than a foot long, aſinine, and terminated with a tuft of hair: the colour a reddiſh brown; white about the rump, the inner ſide of the thighs, and lower part of the belly: a dark ſpace occupies the top of the back, the front of the upper part of the fore legs, and hinder part of the thighs. It inhabits Barbary, and probably other parts of Africa, being alſo found towards the Cape of Good Hope. It is the *bekker el waſh* of the Arabs, according to Dr Shaw; who ſays, that its young quickly grow tame, and herd with other cattle. Mr Forſkal mentions it among the Arabian animals of an uncertain genus, by the name of *bakar waſch*. This is the bubalus of the ancients; not the buffalo, as later writers have ſuppoſed. The Dutch of the Cape call this ſpecies *hartebeeſt*. They go in great herds; few only are ſolitary. They gallop ſeemingly with a heavy pace, yet go ſwiftly. They drop on their knees to fight like the white-footed antelope or nil-ghau, and the boſch-bok, after-deſcribed. The fleſh is fine grained, but dry.—Mr Sparman informs us, that in this animal there is a pore one line in diameter, an inch or an inch and a half below and before the internal angle of the eye. From this pore, which is the aperture of a caruncle that lies below, there is ſecreted a matter almoſt like ear-wax, which he obſerved the Hottentots kept in a piece of ſkin as a rare and excellent medicine; on the dried ſkin of the animal, this pore is ſcarcely to be diſcerned. This Mr Sparman ſuppoſes is the reaſon why ſo great and accurate a zoologiſt as M. Pallas (who deſcribes it in his *Spicilegia* under the denomination of *Antilope bubalis*) makes no mention of this pore, as he made his deſcriptions chiefly from the dried ſkins of this animal. The uſe of this pore, which is alſo found in the deer, is for affording freer reſpiration, a circumſtance ſo eſſential to beaſts of chaſe. See CRAVUS.

7. The ſpringer, with ſlender horns, annulated half way, and twice contorted. The ears very long and duſky. The face, cheeks, noſe, chin, and throat, are white. The whole upper ſide of the neck, part of the lower, the back, ſides, and outſide of the limbs, are of a pale yellowiſh brown. The cheſt, belly, and inſide of the limbs, are white; the ſides and belly divided by a broad band of chefnut, which runs down part of the ſhoulders. The tail reaches to the firſt joint of the leg; the upper part white; the lower black, and furniſhed with long hair. The buttocks are white; and from the tail half way up the back is a ſtripe of white, expanſible at pleaſure. This elegant ſpecies weighs about fifty pounds, and is rather leſs than a roebuck. It inhabits the Cape of Good Hope, where it is called the *ſpring-bock*, from the prodigious leaps it takes on the ſight of any body. When alarmed, it has the power of expanding the white ſpace about the tail into the form of a circle, which returns to its linear form when the animal is tranquil. Theſe animals migrate annually from the interior parts in ſmall herds, and continue in the neighbourhood of the Cape for two or three months: then join companies, and go off in troops conſiſting of many thouſands, covering the great plains for ſeveral hours in their paſſage. They are attended in their migrations by numbers of lions, hyænas, and other wild beaſts, which make great deſtruction among them. They are excellent eating, and with other antelopes are the veniſon of the Cape. Mr Maſon* informs us, that they alſo make periodical migrations, in ſeven or eight years, in herds of many hundred thouſands, from the north, as he ſuppoſes from the interior parts of *Terra de Natal*. They are compelled to it by the exceſſive drought which happens in that region, when ſometimes there does not fall a drop of rain for two or three years. Theſe animals in their courſe deſolate Caffraria, ſpreading over the whole country, and not leaving a blade of graſs. Lions attend them; where one of thoſe beaſts of prey are, his place is known by the vaſt void viſible in the middle of the timorous herd.

* *Phil. Trans.* vol. lxvi. p. 303.

8. The ſtriped antelope, has ſmooth horns, twiſted ſpirally, and compreſſed ſideways, with a ridge on one ſide following the wreaths: they conſiſt of three bends; and are ſometimes four feet and a half long meaſured in a ſtraight line. They are naturally of a duſky colour, and wrinkled; but are generally brought over highly poliſhed. The females are deſtitute of horns. In the upper jaw is a hard horny ſubſtance, diſpoſed in ridges. The length of the animal is nine feet; the legs are ſlender: the general colour is of a reddiſh caſt, mixed with grey; and from the tail, along the top of the back, to the ſhoulders, is a white ſtripe; from which are ſeven others, four pointing towards the thighs, and three towards the belly; but they vary in number of ſtripes. On the upper part of the neck is a ſhort mane: beneath the neck, from the throat to the breaſt, are ſome long hairs hanging down. It inhabits the Cape of Good Hope, where it is called *coedoes*, and is ſaid to leap to a moſt aſtoniſhing height. This ſpecies wants the *ſinus lacrymalis*.

9. The boſch-bok, or wood-goat of the Cape, a ſpecies of antelope, according to Mr Sparman, unknown to all the cultivators of natural hiſtory, whether ancient or modern, till he deſcribed it in the memoirs of the Swediſh academy for the year 1780, quarter 3d, by the name of *antilope ſylvatica*. This animal

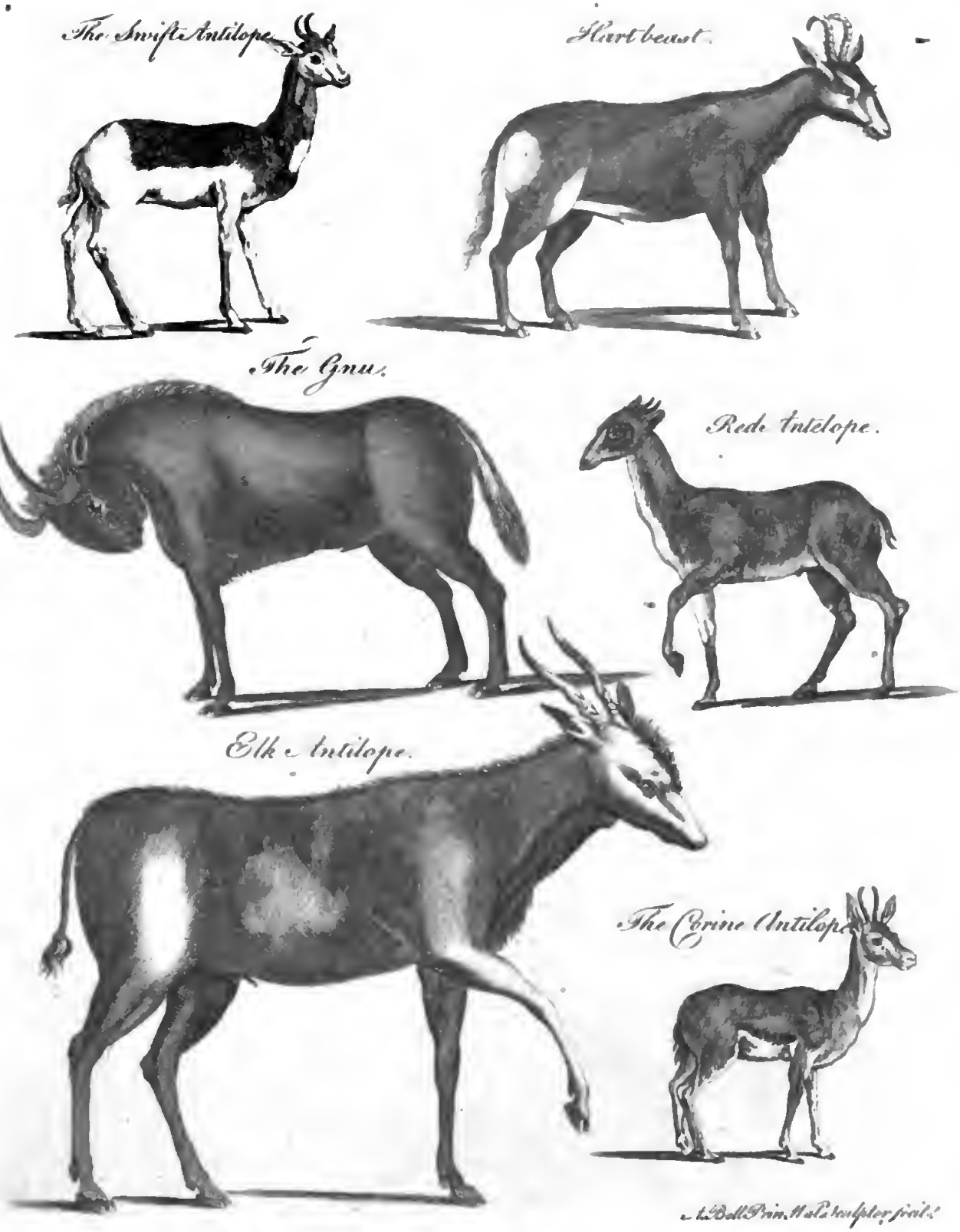
Capra. has obtained the name it goes by, in conſequence of its being the only one among the gazels in Africa, which may be properly ſaid to live in the woods and groves. In ſize, the boſch-bok is ſomewhat above two feet and a half high. The horns are ten inches and a half long; the ears half the length of the horns, or five inches.—The horns are black, in ſome meaſure triangular, and at the ſame time wreathed, ſo that both the ſides and angles have ſomewhat of a ſpiral turn. At bottom they are rather rough, in conſequence of a ſet of almoſt innumerable wavy-rings; which, however, are not elevated much above the ſurface. At top they are conical and ſharp-pointed, and in that part as ſmooth as though they had been poliſhed. The teeth of this animal are like thoſe of other antelopes. It has no fore teeth or *inciſores* except in the lower jaw, where it has eight.—There is no *porus ceriferus* in this, as there is in ſome other antelopes. The hairs on the head are very ſhort and fine; afterwards they become more rough and rugged, reſembling goats hair more than that of gazels or harts. Forwards on the neck, breaſt, ſides, and belly, they are an inch and a half or two inches long. On the ridge of the neck, and ſo on all along that of the back, they are three or four inches in length, ſo as to form a kind of mane there, terminating in a tail about a finger's breadth long. On the hind part of the thighs and buttocks likewiſe, the hairs are eight inches long; the legs and feet are ſlender, and covered with ſhort hairs; the fetlock-joints are ſmall; the noſe and under-lip are decorated with black whiſkers about an inch long. The predominant colour in this animal is dark-brown, which occupies the principal part of the ſides, the back, the upper part of the tail, the upper part of the cheſt and fore-ribs, and the fore-part of the belly. A ſtill darker brown, bordering upon black, is diſcoverable on the outſide of the ſhoulders, and ſome part of the fore-ribs. The fore-part of the noſe, from the eyes to the muzzle, is of a foot colour. The ears are likewiſe as black as ſoot on the outſide, but on the inſide grey; and both outwards and inwards covered with hairs ſtill ſhorter than thoſe on the head; excepting half the fore-part of the lower edge, where the hairs are white and half an inch long. Divers ſmall white ſpots, from nine to twelve in all, are ſeen on each of the haunches and on the ſides near them. A narrow line of long white hairs extends from the neck all along the back and tail, in the midſt of the long brown hairs already deſcribed. From the chine of the back to the ſides run five white parallel ſtreaks, which, however, are only diſcoverable by a cluſe inſpection.

This creature does much miſchief to the vineyards and kitchen-gardens of the Cape coloniſts; and it ſhows a great deal of craft and artifice in avoiding the ſnares and traps ſet for it, as well as the ambuſcades of the ſportſmen. As the *boſch-bok* runs but ſlowly, it ſometimes happens that he is caught by dogs. When he ſees there is no other reſource, he puts himſelf in a poſture of defence; and when he is going to butt, kneels down, like the white-footed antelope and the hartbeeſt. The coloniſts are not very fond of hunting him in this manner, as the beaſt on this occaſion generally ſells his life at a very dear rate, by goring and killing ſome of their beſt and moſt ſpirited hounds. This creature's horns, which are its chief defence, ſometimes alſo prove its bane, by being entangled in the buſhes and ſmall branches of trees, which thus ſtop the beaſt in its flight. In ſome meaſure to avoid this, it carries its noſe horizontally and ſtraight forward while it runs; ſo that its horns lie, as it were, directly on its neck: notwithſtanding which, their horns are generally worn away a little on the fore part, and thus acquire ſome degree of poliſh.—This ſpecies of antelope is monogamous, or keeps in pairs. It is ſwifter in woodlands than the dogs, which likewiſe ſooner loſe ſcent of him there. The female, which is without horns, and on that account runs about in the foreſt more free and unimpeded, does not ſuffer herſelf ſo eaſily to be hunted out of the woods, having there, as well as on the plains, a more certain defence againſt the dogs in her legs, than the male has in his horns, eſpecially as ſhe is not ſo bulky and heavy as the male. Her breaſt is ſaid to be very plump and fleſhy, but the fleſh in general is not very tender. Capra.

10. The leucoryx with the noſe thick and broad, like that of a cow; the ears ſomewhat ſlouching; body clumſy and thick: The horns long, very ſlightly incurvated, ſlender, annulated part of the way; black, pointed. The tail reaching to the firſt joint of the legs, and tufted. The colour is in all parts a ſnowy whiteneſs, except the middle of the face, ſides of the cheeks, and limbs, which are tinged with red.—This ſpecies is about the ſize of a Welch runt; and inhabits Gow Bahrein, an iſle in the gulph of Baſſora.

11. The picta, white-footed antelope, or nyl-ghau; with ſhort horns, bending a little forward; ears large, marked with two black ſtripes; a ſmall black mane on the neck, and half way down the back: a tuft of long black hairs on the fore-part of the neck; above that, a large ſpot of white; another between the fore-legs on the cheſt: one white ſpot on each fore-foot; two on each hind-foot: the tail is long, tufted with black hairs. The colour of the male is a dark grey. The female is of a pale brown colour; with a mane, tuft, and ſtriped ears, like the male; on each foot three tranſverſe bands of black and two of white: It is deſtitute of horns. The height to the top of the ſhoolders is four feet and an inch; the length from the bottom of the neck to the anus, four feet. The head is like that of a ſtag; the legs are delicate.—Theſe animals inhabit the diſtant and interior parts of India, remote from our ſettlements. They are brought down as curioſities to the Europeans, and have of late years been frequently imported into England. In the days of Aurenge Zebe, they abounded between Delhi and Lahor, on the way to Cachemire. They were called *nyl-ghau*, or *blue* or *grey bulls*; and were one of the objects of chace, with that mighty prince, during his journey. They were incloſed by his army of hunters within nets, which being drawn cloſer and cloſer, at length formed a ſmall precinct: into this the king, his omrahs, and hunters, entered, and killed the beaſts with arrows, ſpears, or muſkets; and ſometimes in ſuch nombers, that Aurenge Zebe uſed to ſend quarters as preſents to all his great people. They are uſually very gentle and tame, will feed readily, and lick the hands which give them food. In confinement they will eat oats, but prefer grais and hay; are very fond of wheaten bread; and when thirſty, they will drink

two



A. Bell Prin. Wal. Sculptor fecit.

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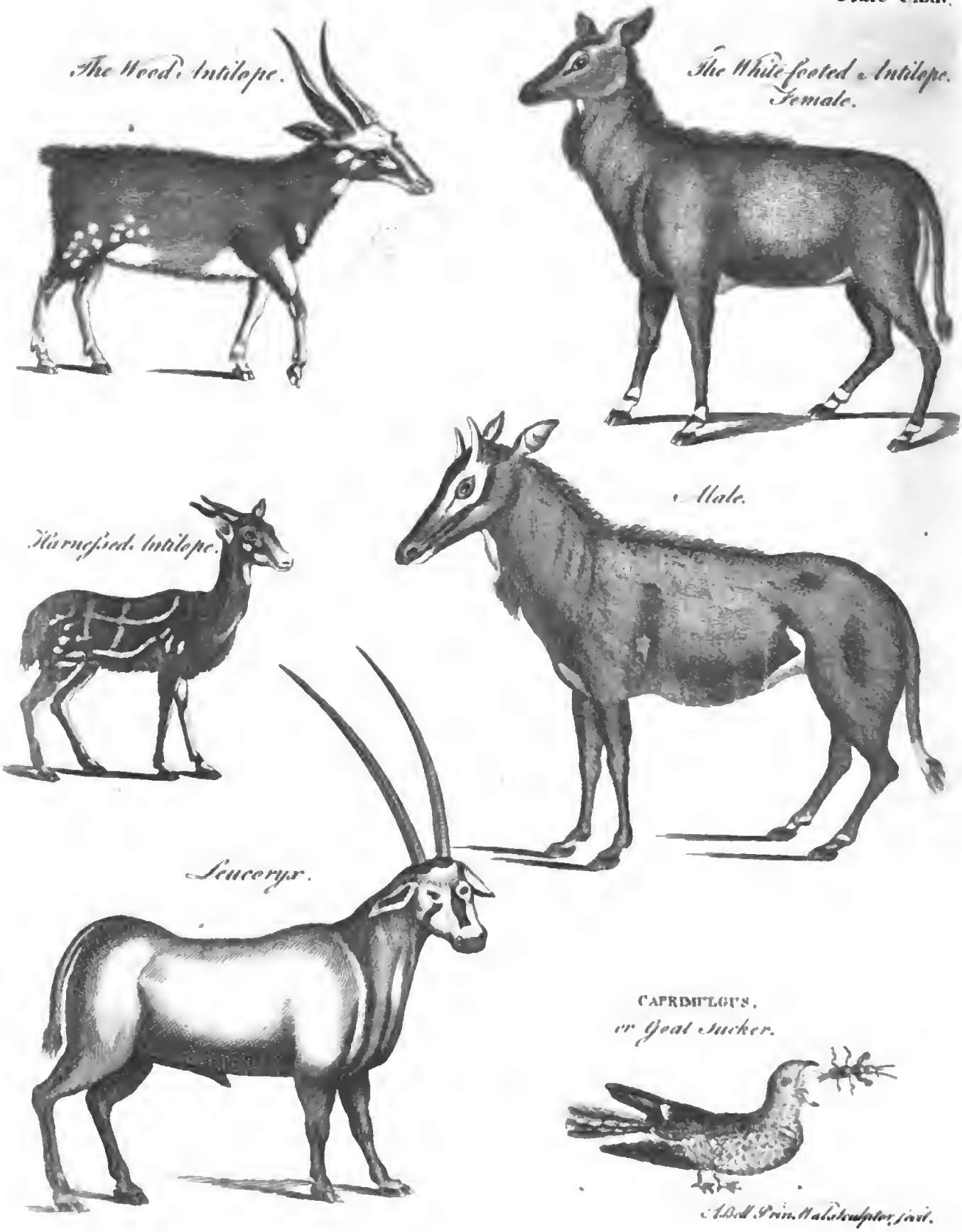
The Wood Antilope.
The White-footed Antilope. Female.
Harnessed Antilope.
Male.
Leucoryx.
CAPRIMULGUS, or Goat Sucker.
A. Bell Prin. Wal. Sculptor, fecit.

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Capra ‖ Capri.

two gallons at a time. They are ſaid to be at times very vicious and fierce. When the males fight, they drop on their knees at a diſtance from one another, make their approaches in that attitude, and when they come near, ſpring and dart at each other. They will often, in a ſtate of confinement, fall into that poſture without doing any harm. They will, notwithſtanding, attack mankind unprovoked. A labourer, who was looking over ſome pales which incloſed a few of them, was alarmed by one of the males flying at him like lightning; but he was ſaved by the intervention of the woodwork, which it broke to pieces, and at the ſame time one of its horns.—They have bred in England. They are ſuppoſed to go nine months with young, and have ſometimes two at a birth.

12. The ſcripta or harneſſed antelope (*le guib*, Buff.), has ſtraight horns nine inches long, pointing backwards, with two ſpiral ribs. The general colour is a deep tawny; but the ſides are moſt ſingularly marked with two tranſverſe bands of white, croſſed by two others from the back to the belly; the rump with three white lines pointing downwards on each ſide; and the thighs are ſpotted with white. The tail is ten inches long, covered with long rough hairs.—It inhabits the plains and woods of Senegal, living in large herds. It is frequent at the Cape, where it is called the *bonte-bok*, or *ſpotted goat*.

Capra-Saltans, in meteorology, a fiery meteor or exhalation ſometimes ſeen in the atmoſphere. It forms an inflected line, reſembling in ſome meaſure the capers of a goat; whence it has its name.

CAPRALA, an iſle of Italy, in the Tuſcan ſea, to the north-eaſt of Corſica, on which it depends. It is pretty populous, and has a ſtrong caſtle for its defence. It is about 15 miles in circumference. E. Long. 11. 5. N. Lat. 43. 15.

CAPRARIA, in botany: A genus of the angioſpermia order, belonging to the didynamia claſs of plants; and in the natural method ranking under the 40th order, *Perſonatæ*. The calyx is quinquepartite; the corolla campanulated, quinquefid, with acute ſegments; the capſule bivalved, bilocular, and polyſpermous. There is but one ſpecies, the hiſlora, which is a native of the warm parts of America. Being a troubleſome weed, and without beauty, it is never cultivated, except in botanic gardens for the ſake of variety.

CAPRAROLA, one of the moſt magnificent palaces in Italy, ſeated on a hill, in Ronciglione, whoſe foot is watered by the river Tircia. It was built by cardinal Farneſe; and has five fronts, in the middle of which is a round court, though all the rooms are ſquare, and well proportioned. It is 27 miles north-weſt of Rome.

CAPREÆ. See Capri.

CAPREOLUS (Elias), an excellent civilian, and learned hiſtorian, born in Breſcia in Italy, wrote an hiſtory of Breſcia, and other works: died in 1519.

CAPRI, (anciently *Capreæ*), a city and iſland at the entrance of the gulph of Naples, E. Long. 14. 50. N. Lat. 40. 45.—The iſland is only four miles long and one broad; the city is a biſhop's ſee, ſituated on a high rock at the weſt end of the iſland. Capreæ was anciently famous for the retreat of the emperor Tiberius for ſeven years, during which he indulged himſelf in the moſt ſcandalous debaucheries*. Before Tiberius came hither, Capri had attracted the notice of Auguſtus, as a moſt eligible retreat, though in ſight of populous cities, and almoſt in the centre of the empire. His ſucceſſor preferred it to every other reſidence; and in order to vary his pleaſures, and enjoy the advantages as well as avoid the inconveniences of each revolving ſeaſon, built twelve villas in different ſituations, dedicated to the twelve greater gods: the ruins of ſome of them are ſtill to be ſeen: at Santa Maria are extenſive vaults and reſervoirs; and on an adjoining brow are the remains of a light-houſe; two broken columns indicate the entrance of the principal court. According to Dion Caſſius, this iſland was wild and barren before the Cæſars took it under their immediate protection: at this day a large portion of its ſurface is uncultivated and impracticable; but every ſpot that will admit the hoe is induſtriouſly tilled, and richly laden with the choiceſt productions of agriculture. The odium attached to the memory of Tiberius proved fatal to his favourite abode; ſcarce was his death proclaimed at Rome, when the ſenate iſſued orders for the demolition of every fabric he had raiſed on the iſland, which by way of puniſhment was thenceforward deſtined to be a ſtate priſon. The wife and ſiſter of Commodus were baniſhed to its inhoſpitable rocks, which were ſoon ſtained with their blood. In the middle ages Capri became an appendage of the Amalfitan republic, and after the downfall of that ſtate, belonged to the duchy of Naples. There ſtood a pharos on this iſland, which, a few days before the death of Tiberius, was overthrown by an earthquake.

Capri ‖ Caprification.

* See Tiberius.

CAPRIATA (Peter John), a civilian and hiſtorian, was born at Genoa. He wrote, in Italian, the hiſtory of the wars of Italy; an Engliſh tranſlation of which was printed in London in 1663.

CAPRICORN, in aſtronomy, one of the 12 ſigns of the zodiac. See Astronomy, n° 404.

The ancients accounted Capricorn the tenth ſign; and when the ſun arrived thereat, it made the winter ſolſtice with regard to our hemiſphere: but the ſtars having advanced a whole ſign towards the eaſt, Capricorn is now rather the 11th ſign; and it is at the ſun's entry into Sagittary that the ſolſtice happens, though the ancient manner of ſpeaking is ſtill retained.

This ſign is repreſented on ancient monuments, medals, &c. as having the forepart of a goat and the hindpart of a fiſh, which is the form of an Ægipan; ſometimes ſimply under the form of a goat.

Tropic of Capricorn, a leſſer circle of the ſphere, which is parallel to the equinoctial, and at 23° 30′ diſtance from it ſouthwards; paſſing through the beginning of Capricorn.

CAPRIFICATION, a method uſed in the Levant, for ripening the fruit of the domeſtic fig-tree, by means of inſects bred in that of the wild fig-tree.

The moſt ample and ſatisfactory accounts of this curious operation in gardening are thoſe of Tournefort and Pontedera: the former, in his Voyage to the Levant, and in a Memoir delivered to the academy of ſciences at Paris in 1705; the latter, in his *Anthologia*. The ſubſtance of Tournefort's account follows: "Of the thirty ſpecies or varieties of the domeſtic fig-tree which are cultivated in France, Spain, and Italy, there are

Caprification.

are but two cultivated in the Archipelago. The firſt ſpecies is called *crnos*, from the old Greek *crinos*, which anſwers to *caprificus* in Latin, and ſignifies a wild fig-tree. The ſecond is the domeſtic or garden fig-tree. The former bears ſucceſſively, in the ſame year, three ſorts of fruit, called *fornites*, *cratitires*, and *orni*; which, though not good to eat, are found abſolutely neceſſary towards ripening thoſe of the garden-fig. Theſe fruits have a ſleek even ſkin; are of a deep green colour; and contain in their dry and mealy inſide ſeveral male and female flowers placed upon diſtinct foot-ſtalks, the former above the latter. The *fornites* appear in Auguſt, and continue to November without ripening: in theſe are bred ſmall worms, which turn to a ſort of gnats nowhere to be ſeen but about theſe trees. In October and November, theſe gnats of themſelves make a puncture into the ſecond fruit, which is called *cratitires*. Theſe do not ſhow themſelves till towards the end of September. The *fornites* gradually fall away after the gnats are gone; the *cratitires*, on the contrary, remain on the tree till May, and incloſe the eggs depoſited by the gnats when they pricked them. In May, the third ſort of fruit, called *orni*, begins to be produced by the wild fig-trees. This is much bigger than the other two; and when it grows to a certain ſize, and its bud begins to open, it is pricked in that part by the gnats of the *cratitires*, which are ſtrong enough to go from one fruit to another to depoſit their eggs. It ſometimes happens that the gnats of the *cratitires* are ſlow to come forth in certain parts, while the *orni* in thoſe very parts are diſpoſed to receive them. In this caſe, the huſbandman is obliged to look for the *cratitires* in another part, and fix them at the ends of the branches of thoſe fig-trees whoſe *orni* are in a fit diſpoſition to be pricked by the gnats. If they miſs the opportunity, the *orni* fall, and the gnats of the *cratitires* fly away. None but thoſe that are well acquainted with the culture know the critical moment of doing this; and in order to know it, their eye is perpetually fixed on the bud of the fig; for that part not only indicates the time that the prickers are to iſſue forth, but alſo when the fig is to be ſucceſsfully pricked: if the bud is too hard and compact, the gnat cannot lay its eggs; and the fig drops when the bud is too open.

"The uſe of all theſe three ſorts of fruit is to ripen the fruit of the garden fig-tree, in the following manner. During the months of June and July, the peaſants take the *orni*, at the time their gnats are ready to break out, and carry them to the garden fig-trees: if they do not nick the moment, the *orni* fall; and the fruit of the domeſtic fig-tree, not ripening, will in a very little time fall in like manner. The peaſants are ſo well acquainted with theſe precious moments, that, every morning, in making their inſpection, they only transfer to their garden fig-trees ſuch *orni* as are well conditioned, otherwiſe they loſe their crop. In this caſe, however, they have one remedy, though an indifferent one; which is, to ſtrew over the garden fig-trees another plant in whoſe fruit there is alſo a ſpecies of gnats which anſwer the purpoſe in ſome meaſure."

The caprification of the ancient Greeks and Romans, deſcribed by Theophraſtus, Plutarch, Pliny, and other authors of antiquity, correſponds in every circumſtance with what is practiſed at this day in the Archipelago and in Italy. Theſe all agree in declaring, that the wild fig-tree, *caprificus*, never ripened its fruit; but was abſolutely neceſſary for ripening that of the garden or domeſtic fig, over which the huſbandmen ſuſpended its branches. The reaſon of this ſucceſs has been ſuppoſed to be, that by the punctures of theſe inſects the veſſels of the fruit are lacerated, and thereby a greater quantity of nutritious juice derived thither. Perhaps, too, in depoſiting their eggs, the gnats leave behind them ſome ſort of liquor proper to ferment gently with the milk of the figs, and to make their fleſh tender. The figs in Provence, and even at Paris, ripen much ſooner for having their buds pricked with a ſtraw dipped in olive-oil. Plums and pears likewiſe, pricked by ſome inſects, ripen much the faſter for it; and the fleſh round ſuch puncture is better taſted than the reſt. It is not to be diſputed, that conſiderable changes happen to the contexture of fruits ſo pricked, juſt the ſame as to parts of animals pierced with any ſharp inſtrument. Others have ſuppoſed that theſe inſects penetrated the fruit of the tree to which they were brought, and gave a more free admiſſion to the air, and to the ſun. Linnæus explained the operation, by ſuppoſing that the inſects brought the farina from the wild fig, which contained male flowers only, to the domeſtic fig, which contained the female ones. Haſſelquiſt, from what he ſaw in Paleſtine, ſeemed to doubt of this mode of fructification. M. Bernard, in the Memoirs of the Society of Agriculture, oppoſes it more decidedly. He could never find the inſect in the cultivated fig; and, in reality, it appeared to leave the wild fig, after the ſtamina were mature, and their pollen diſſipated: beſides, he adds, what they may have brought on their wings muſt be rubbed away, in the little aperture which they would form for themſelves. At Malta, where there are ſeven or eight varieties of the domeſtic fig, this operation is only performed on theſe which ripen lateſt: the former are of a proper ſize, fine flavour, and in great abundance without it; ſo that he thinks the caprification only haſtens the ripening. He examined the parts of fructification of the fig; and he obſerves, if this examination be made previous to the ripening, that round the eye of the fig, and in the ſubſtance of its covering, may be ſeen triangular dentated leaves, preſſed one againſt another; and under theſe leaves are the ſtamina, whoſe pollen is deſtined for the impregnation of the grains, which fill the reſt of the fruit. Theſe male organs are much more numerous in the wild fig than in the domeſtic; and the ſtamina are found to contain a yellow duſt, which may be collected when it is ripe. The wild figs, when ripe, are not ſucculent, and have no taſte, though the grains are diſpoſed in the ſame manner as in the other kind. The pith of the grain of the wild fruit ſerves as food to a ſpecies of the cynips, whoſe larva is white, till the moment of its transformation; and it is by an opening, in the direction of the piſtil, that the inſect penetrates the grain. From this account it is thought probable that the inſect is only communicated by accident to the domeſtic fig, and that the flowers of this genus are ſometimes hermaphrodites. But the number of hermaphrodite flowers being fewer on the cultivated than on the wild fig, the ſeeds are fecundated more certainly and quickly by the caprification; and every botaniſt knows, that when the impregnation is completed, the flower ſoon withers; while, if by any accident it is delayed, it continues in bloom much longer. This view of the ſubject, there-

fore,

Caprimulgus. fore, explains very completely the reaſon why, in Malta, the caprification is practiſed on the late kind of figs, becauſe it haſtens the formation and maturity of the fruit.

CAPRIMULGUS, Goat-sucker, or *Fern-owl*, in ornithology, a genus of birds belonging to the order of paſſeres. The beak is incurvated, ſmall, tapering, and depreſſed at the baſe; the mouth opens very wide.

1. The Europæus, with the tubes of the noſtrils hardly viſible. It feeds on moths, gnats, dorrs, or chaffers; from which Charleton calls it a *dorr-hawk*, its food being entirely of that ſpecies of beetle during the month of July, the period of that inſect's flight in this country. This bird migrates. It makes but a ſhort ſtay with us: appears the latter end of May; and diſappears, in the northern parts of our iſland, the latter end of Auguſt; but, in the ſouthern, ſtays above a month later. It inhabits all parts of Britain from Cornwall to the county of Roſs. Mr Scopoli ſeems to credit the report of their ſucking the teats of goats, an error delivered down from the days of Ariſtotle. Its notes are moſt ſingular. The loudeſt ſo much reſembles that of a large ſpinning wheel, that the Welſh call this bird *aderyn y droell*, or the wheel-bird. It begins its ſong moſt punctually on the cloſe of day, ſitting uſually on a bare bough, with the head lower than the tail, the lower jaw quivering with the efforts. The noiſe is ſo very violent, as to give a ſenſible vibration to any little building it chances to alight on and emit this ſpecies of note. The other is a ſharp ſqueak, which it repeats often; this ſeems a note of love, as it is obſerved to reiterate it when in purſuit of the female among the trees. It lays its eggs on the bare ground; uſually two: they are of a long form, of a whitiſh hue, prettily marbled with reddiſh brown. The length of this bird is 10½ inches; extent 22. Plumage, a beautiful mixture of white, black, aſh-colour, and ferruginous, diſpoſed in lines, bars, and ſpots. The male is diſtinguiſhed from the female by a great oval white ſpot near the end of the three firſt quill-feathers, and another on the outmoſt feathers of the tail. This is the only one of the genus which is found in Europe. A variety leſs in ſize, being only eight inches in length, inhabits Virginia, in ſummer: arrives there towards the middle of April, and frequents the mountainous parts, but will frequently approach the houſes in the evening, where it ſettles on a rail or poſt, and cries for ſeveral times together very loud, ſomewhat like the word *whiperiwhip*, or *whip-poor-will*, the firſt and laſt ſyllables pronounced the loudeſt. After continuing in one place for ſome time, it flies to another, and does the ſame; ſometimes four or five cry all together: this noiſe it begins juſt after ſun-ſet, and continues at intervals till juſt before ſun-riſe. It does not catch inſects always on the wing; for it frequently ſits upon a convenient place, and leaps up after them as they fly by, and returns to the ſame ſpot again. It makes no neſt, but lays the eggs, which are two in number, and of a dull green with duſky ſpots and ſtreaks, on the bare ground in the open fields. Kalm ſays that the fleſh is good to eat. Another variety, larger, inhabits Virginia and Carolina; where it is called the *rain-bird*, becauſe it never appears in the day-time, except when the ſky, being obſcured with clouds, betokens rain. It is ſaid to lay the eggs on the ground, and that they are not unlike thoſe of the Lapwing.

2. The Americanus, has the tubes of the noſtrils very conſpicuous. It is a night bird, and is found in America. Caprioles ‖ Capſicum.

There are ſeveral other ſpecies or varieties inhabiting different countries, and differently marked, but all nearly ſimilar in their manners.

CAPRIOLES, in the manege, leaps that a horſe makes in the ſame place without advancing, in ſuch a manner, that, when he is at the height of the leap, he jerks out with his hinder legs even and near. It is the moſt difficult of all the high manege. It differs from a croupade, in this, that, in a croupade, a horſe does not ſhow his ſhoes; and from a ballotade, becauſe in this he does not jerk out. To make a horſe work well at caprioles, he muſt be put between two pillars, and taught to raiſe firſt his fore-quarters, and then his hind-quarters while his fore ones are yet in the air; for which end you muſt give him the whip and the poinſon.

CAPSA (anc. geog.), a large and ſtrong town of Numidia, ſituated amidſt vaſt deſarts, waſte, uncultivated, and full of ſerpents, where Jugurtha kept his treaſure. In his time it was taken and raſed by Marius the Roman general, who put to death all the citizens capable of bearing arms, and ſold the reſt for ſlaves. It was, however, afterwards rebuilt by the Romans, and ſtrongly fortified; but, on the decline of their empire, was taken and demoliſhed a ſecond time, by Oeuba a famous Arab general. The walls of the citadel are ſtill remaining, and are monuments of the ancient glory and ſtrength of Capſa. They are 24 fathoms in height, and five in thickneſs, built of large ſquare ſtones, and have now acquired the ſolidity and firmneſs of a rock. The walls of the town were rebuilt by the inhabitants ſince their firſt demolition; but were afterwards deſtroyed by Jacob Almanzar, who ſent a governor and troops into the province. In Marmol's time Capſa was very populous, and abounded with ſtately moſques and other ſtructures of ſuperb and elegant workmanſhip: but at preſent it is occupied by a poor and indigent people, fleeced and oppreſſed by the Tuneſe government. In the very centre of the city ſtands an incloſed fountain, which both ſupplies the people with drink, and affords them an agreeable bath. The adjacent country is now cultivated, and produces ſeveral kinds of fruits; but the climate is unhealthy. The inhabitants are remarkable for their peeviſhneſs of temper. Both men and women dreſs handſomely except their feet, which they cover with coarſe ſhoes of bungling workmanſhip, and made of the rough ſkins of wild beaſts, equally inconvenient and unbecoming. E. Long. 9. 3. N. Lat. 33. 15.

CAPSARIUS, from *capſa*, ſatchel, in antiquity, a ſervant who attended the Roman youth to ſchool, carrying a ſatchel with their books in it, ſometimes alſo called librarius.

Capsarius was alſo an attendant at the baths, to whom perſons committed the keeping of their clothes.

Capsarius (from *capſa*, "a cheſt,"), among the Roman bankers, was he who had the care of the money-cheſt or coffer.

CAPSICUM, or Guinea-pepper: A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 28th order, *Lurida*. The corolla is verticillated, and the fruit a ſapleſs barry.

Species.

Capſicum. *Species.* 1. The annuum, with oblong fruit, is the common long-podded capſicum commonly cultivated in the gardens. Of this there is one kind with red, and another with yellow fruit: and of theſe there are ſeveral varieties, differing only in the ſize and figure of their fruit. 2. The tetragonum, commonly called *bell-pepper*. The fruit of this is red, and is the only kind proper for pickling, the ſkin being tender; whereas thoſe of the other ſorts are thin and tough. The pods are from an inch to an inch and half or two inches long; are very large, ſwelling, and wrinkled, flatted at the top, where they are angular, and ſometimes ſtand erect, at others grow downward. 3. The cerafiforme, with a round ſmooth fruit, doth not grow ſo tall as the other ſorts, but ſpreads near the ground; the leaves come out in cluſters, are of a ſhining green, and ſtand on long footſtalks. The fruit is of a beautiful red, and of the ſize of a cherry. 4. The pyramidale, is a native of Egypt, and hath much narrower leaves than the other ſorts. The pods always grow erect, and are produced in great plenty, ſo that the plants make a good appearance for three months in the winter. 5. The minimum, commonly called *bird-pepper*, riſes with a ſhrubby ſtalk four or five feet high; the leaves are of a lucid green; the fruit grows at the diviſion of the branches, ſtanding erect: theſe are ſmall, oval, and of a bright red; they are much more ſharp and biting than thoſe of the other ſorts. Beſides theſe ſpecies, botaniſts deſcribe as many more; viz. the cordiforme, with heart-ſhaped fruit; the angulofum, with angular heart-ſhaped fruit; the olivaforme, with oval fruit; the conoide, commonly called *hen-pepper*, with a conical red fruit growing erect; and the fruitefcens, with ſmall pyramidal fruit growing erect; commonly called *Barbary pepper*. Theſe, however, have no remarkable properties different from the others.

Culture. The three firſt ſpecies are annual plants, and muſt be propagated by ſeeds ſown on a hot-bed in the ſpring, and treated in the ſame manner with other exotics; they will however bear the open air, after being inured to it by degrees. The plants of the ſecond ſort, whoſe fruit is uſed for pickling, ſhould be taken from the hot-bed, and planted in a rich ſpot of ground in a warm ſituation about a foot and an half aſunder. They muſt be ſhaded till they have taken root, and afterwards duly watered in dry weather, which will greatly promote their growth and cauſe them to be more fruitful, and likewiſe enlarge the ſize of the fruit. By this management, three or four crops of fruit for pickling may be obtained the ſame year. The other ſorts are more tender; and therefore muſt be planted in pots plunged in a moderate hot-bed, and ſheltered under a frame.

Uſes, &c. The ſecond ſort, as already obſerved, produces fruit fit for pickling; for which purpoſe they muſt be gathered before they arrive at their full ſize, while their rind is tender. They muſt be ſlit down on one ſide to get out the ſeeds, after which they ſhould be ſoaked two or three days in ſalt and water; when they are taken out of this and drained, boiling vinegar muſt be poured on them in a ſufficient quantity to cover them, and cloſely ſtopped down for two months; then they ſhould be boiled in the vinegar to make them green; but they want no addition of any ſpice, and are the wholeſomeſt and beſt pickle in the world. The tenth ſpecies is uſed for making what is called *cayan-butter*, or *pepper-pots*, by the inhabitants of America, and which they eſteem the beſt of all the ſpices. The following is a receipt for making of a pepper-pot: "Take of the ripe ſeeds of this ſort of capſicum, and dry them well in the ſun; then put them into an earthen or ſtone pot, mixing flour between every ſtratum of pods; and put them into an oven after the baking of bread, that they may be thoroughly dried: after which they muſt be well cleanſed from the flour; and if any of the ſtalks remain adhering to the pods, they ſhould be taken off, and the pods reduced to a fine powder: to every ounce of this add a pound of wheat-flour, and as much leaven as is ſufficient for the quantity intended. After this has been properly mixed and wrought, it ſhould be made into ſmall cakes, and baked in the ſame manner as common cakes of the ſame ſize: then cut them into ſmall parts, and bake them again, that they may be as dry and hard as biſcuit; which being powdered and ſifted, is to be kept for uſe." This is prodigiouſly hot and acrimonious, ſetting the mouth as it were on fire. It is by ſome recommended as a medicine for flatulencies; but it is greatly to be doubted whether all thoſe hot irritating medicines are not productive of more harm than good, in this country at leaſt. If the ripe pods of capſicum are thrown into the fire, they will raiſe ſtrong and noiſome vapours, which occaſion vehement ſneezing, coughing, and often vomiting, in thoſe who are near the place, or in the room where they are burnt. Some perſons have mixed the powder of the pods with ſnuff, to give to others for diverſion: but where it is in quantity, there may be danger in uſing it; for it will occaſion ſuch violent fits of ſneezing, as may break the blood-veſſels of the head. Capſicum Capſtan.

CAPSQUARES, ſtrong plates of iron which come over the trunnions of a gun, and keep it in the carriage. They are faſtened by a hinge to the prize-plate, that they may lift up and down, and form a part of an arch in the middle to receive a third part of the thickneſs of the trunnions: for two-thirds are let into the carriage, and the other end is faſtened by two iron wedges called the *fore-locks* and *keys*.

CAPSTAN, or Capstean, a ſtrong maſſy column of timber, formed like a truncated cone, and having its upper extremity piercced with a number of holes to receive the bars or levers. It is ſet perpendicularly down through the decks of a ſhip; and is fixed in ſuch a manner, that the men, by turning it horizontally with their bars, may perform any work which requires an extraordinary effort.

A capſtern is compoſed of ſeveral parts, where A is the barrel, *b* the whelps, *c* the drum-head, and *d* the ſpindle. The whelps riſe out from the main body of the capſtern like buttreſſes, to enlarge the ſweep, ſo that a greater quantity of cable, or whatever rope encircles the barrel, may be wound about it at one turn, without adding much to the weight of the capſtern. The whelps reach downwards from the lower part of the drum-head to the deck. The drum-head is a broad, cylindrical piece of wood reſembling a mill-ſtone, and fixed immediately above the barrel and whelps. On the outſide of this piece are cut a number of ſquare holes parallel to the deck to receive the bars. The ſpindle or pivot *d*, which is ſhod with iron, is the axis Plate CXXVII.

Capſtern

or foot upon which the capſtern reſts, and turns round in the ſaucer, which is a ſort of iron ſocket let into a wooden ſtock or ſtandard called the *ſtep*, reſting upon and bolted to the beams.

Beſides the different parts of the capſtern above explained, it is furniſhed with ſeveral appurtenances, as the *bars*, the *pins*, the *pawls*, the *ſwifter*, and the *ſaucer*, already deſcribed. The bars are long pieces of wood or arms, thruſt into a number of ſquare holes in the drum-head all round, in which they are as the radii of a circle, or the ſpokes in the nave of a wheel. They are uſed to heave the capſtern round, which is done by the men ſetting their breaſts againſt them, and walking about, like the machinery of a horſe-mill, till the operation is finiſhed.—The pins *e*, are little bolts of iron thruſt perpendicularly through the holes of the drum-head, and through a correſpondent hole in the end of the bar, made to receive the pins when the bars are fixed. They are uſed to confine the bars, and to prevent them from working out as the men heave, or when the ſhip labours. Every pin is faſtened to the drum-head with a ſmall iron chain; and that the bars may exactly fit their reſpective holes, they are all numbered.—The pawls *f*, n° 1. are ſituated on each ſide the capſtern, being two ſhort bars of iron, bolted at one end through the deck to the beams cloſe to the lower part of the whelps; the other end, which occaſionally turns round on the deck, being placed in the intervals of the whelps, as the capſtern turns round, prevents it from recoiling or turning back by any ſudden jerk of the cable, as the ſhip riſes on the ſea, which might greatly endanger the men who heave. There are alſo hanging pawls *gg*, n° 3. uſed for the ſame purpoſes, reaching from the deck above to the drum-head immediately below it. The ſwifter is a rope paſſed horizontally through holes in the outer end of the bars, and drawn very tight; the intent of this is to keep the men ſteady as they walk round when the ſhip rocks, and to give room for a greater number to aſſiſt by pulling upon the ſwifter itſelf.

The moſt frequent uſe of the capſtern is to heave in the cable, and thereby remove the ſhip or draw up the anchor. It is alſo uſed to wind up any weighty body, as the maſts, artillery, &c. In merchant-ſhips it is likewiſe frequently employed to diſcharge or take in the cargo, particularly when conſiſting of weighty materials that require a great exertion of mechanical powers to be removed.

There are commonly two capſterns in a man of war, the *main* and the *gear* capſtern; the former of which has two drum-heads, and may be called a *double one*. This is repreſented in n° 3. The latter is repreſented in n° 2.

Formerly the bars of the capſtern went entirely thro' the head of it, and conſequently were more than double the length of the preſent ones; the holes were therefore formed at different heights, as repreſented in n° 1. But this machine had ſeveral inconveniences, and has long been entirely diſuſed in the navy. Some of theſe ſort of capſterns, however, are ſtill retained in merchant-ſhips, and are uſually denominated *crabs*. The ſituation of the bars in a crab, as ready for heaving, is repreſented in n° 4.

To Rig the Capſtern, is to fix the bars in their reſpective holes, and thruſt in the pins, in order to confine them.—*Surge the Capſtern*, is the order to ſlacken the rope heaved round upon it, of which there are generally two turns and a half about the barrel at once, and ſometimes three turns.—*To Heave the Capſtern*, is to go round with it heaving on the bars, and drawing in any rope of which the purchaſe is created.—*To Come-up the Capſtern*, is to let go the rope upon which they had been heaving.—*To Pawl the Capſtern*, is to fix the pawls to prevent it from recoiling during any pauſe of heaving.

Capſule of Captain.

CAPSULE, in a general ſenſe, denotes a receptacle or cover in form of a bag.

Capsule, among botaniſts, a dry hollow ſeed-veſſel or pericarpium, that cleaves or ſplits in ſome determinate manner. See Pericarpium.

This ſpecies of ſeed-veſſel is frequently fleſhy and ſucculent, like a berry, before it has attained maturity; but, in ripening, becomes dry, and often ſo elaſtic as to dart the ſeeds from their departments with conſiderable velocity. This elaſticity is remarkably conſpicuous in wood-ſorrel; balſam, *impatiens*; African ſpiræa, *dioſma*; *fraxinella*; *juſticia*; *ruellia*; *barleria*; *lathræa*; and many others.—The general aptitude or diſpoſition of this ſpecies of ſeed-veſſel to cleave or ſeparate for the purpoſe of diſperſing its ſeeds, diſtinguiſhes it not leſs remarkably than its texture from the pulpy or ſucculent fruits of the apple, berry, and cherry kind. This opening of the capſule for diſcharging its ſeeds when the fruit is ripe, is either at the top, as in moſt plants; at the bottom, as in triglochin; at the ſide through a pore or ſmall hole, as in campanula and orchis; horizontally, as in plantain, amaranthus, and anagallis; or longitudinally, as in convolvulus. All fruit that is jointed opens at every one of the joints, each of which contains a ſingle ſeed. Capſules, in ſplitting, are divided, eſternally, into one or more pieces, called by Linnæus *valves*. The internal diviſions of the capſules are called *cells*, *loculamenta*: theſe, in point of number, are exceedingly diverſified; ſome having only one cell, as the primroſe; and others many, as the water-lily. Hence a capſule is termed *unilocular*, *bilocular*, *trilocular*, &c. according as it has one, two, three, &c. cells or cavities.

Capsulæ Atrabiliariæ, called alſo *glandulæ renales*, and *renes ſuccenturiati*. See Anatomy, n° 100.

CAPTAIN, a military officer, whereof there are ſeveral kinds, according to their commands.

Captain of a Troop or Company, an inferior officer who commands a troop of horſe or a company of foot, under a colonel. The duty of this officer is to be careful to keep his company full of able-bodied ſoldiers; to viſit their tents and lodgings, to ſee what is wanting; to pay them well; to cauſe them keep themſelves neat and clean in their clothes, and their arms bright. He has power in his own company of making ſerjeants, corporals, and lanſpeſades.

In the horſe and foot guards, the captains have the rank of colonels.

Captain-General, he who commands in chief.

Captain-Lieutenant, he who with the rank of captain, but the pay of lieutenant, commands a troop or company in the name and place of ſome other perſon who is diſpenſed with on account of his quality from performing the functions of his poſt.

Thus the colonel being uſually captain of the firſt

Captain. company of his regiment, that company is commanded by his deputy under the title of *captain-lieutenant*.

So in England, as well as in France, the king, queen, dauphin, princes, &c. have uſually the title of captain of the guards, *gens d'armes*, &c. the real duty of which offices is performed by captain-lieutenants.

Captain Reformed, one who, upon the reduction of the forces, has his commiſſion and company ſuppreſſed; yet is continued captain, either as ſecond to another, or without any poſt or command at all.

Captain of a Ship of War, the officer who commands a ſhip of the line of battle, or a frigate carrying 20 or more cannon. The charge of a captain in his majeſty's navy is very comprehenſive, in as much as he is not only anſwerable for any bad conduct in the military government, navigation, and equipment of the ſhip he commands, but alſo for any neglect of duty or ill management in his inferior officers, whoſe ſeveral charges he is appointed to ſuperintend and regulate.

On his firſt receiving information of the condition and quality of the ſhip he is appointed to command, he muſt attend her conſtantly, and haſten the neceſſary preparations to fit her for ſea. So ſtrict, indeed, are the injunctions laid on him by the lord high admiral, or commiſſioners of the admiralty, that he is forbid to lie out of his ſhip, from his arrival on board to the day of his diſcharge, unleſs by particular leave from the admiralty or from his commander in chief. He is enjoined to ſhow a laudable example of honour and virtue to the officers and men; and to diſcountenance all diſſolute, immoral, and diſorderly practices, and ſuch as are contrary to the rules of ſubordination and diſcipline; as well as to correct thoſe who are guilty of ſuch offences as are puniſhable according to the uſage of the ſea. He is ordered particularly to ſurvey all the military ſtores which are ſent on board, and to return whatever is deemed unfit for ſervice. His diligence and application are required to procure his complement of men; obſerving carefully to enter only ſuch as are fit for the neceſſary duty, that the government may not be put to unneceſſary expence. When his ſhip is fully manned, he is expected to keep the eſtabliſhed number of men complete, and ſuperintend the muſter himſelf if there is no clerk of the check at the port. When his ſhip is employed on a cruizing ſtation, he is expected to keep the ſea the whole length of time previouſly appointed; but if he is compelled by ſome unexpected accident to return to port ſooner than the time limited, he ought to be very cautious in the choice of a good ſituation for anchoring, ordering the maſter or other careful officers to ſound and diſcover the depths of water and dangers of the coaſt. Previous to any poſſibility of an engagement with the enemy, he is to quarter the officers and men to the neceſſary ſtations according to their office and abilities, and to exerciſe them in the management of the artillery, that they may be more expert in time of battle. His ſtation in the time of an engagement is on the quarter-deck: at which time he is expected to take all opportunities of annoying his enemy, and improving every advantage over him; to exhibit an example of courage and fortitude to his officers and crew; and to place his ſhip oppoſite to his adverſary in ſuch a poſition as that every cannon ſhall do effectual execution. At the time of his arrival in port, after his return from abroad, he is to aſſemble his officers, and draw up a detail of the obſervations that have been made during the voyage, of the qualities of the ſhip as to her trim, ballaſt, ſtowage, manner of ſailing, for the information and direction of thoſe who may ſucceed him in the command: and this account is to be ſigned by himſelf and officers, and to be returned to the reſident commiſſioner of the navy at the port where the ſhip is diſcharged. Captain of Captive.

Captain of a Merchant-ſhip, he who has the direction of the ſhip, her crew, and lading, &c. In ſmall ſhips and ſhort voyages, he is more ordinarily called the *maſter*. In the Mediterranean, he is called the *patroon*.—The proprietor of the veſſel appoints the captain or maſter; and he is to form the crew, and chooſe and hire the pilots, mates, and ſeamen; though, when the proprietor and maſter reſide on the ſame ſpot, they generally act in concert together.

Captain Baſhaw, or *Capoudan Baſhaw*, in the polity of the Turks, ſignifies the Turkiſh high admiral. He poſſeſſes the third office of the empire, and is inveſted with the ſame power at ſea that the vizir has on ſhore. Soliman II. inſtituted this office in favour of the famous Barbaroſſa, with abſolute authority over the officers of the marine and arſenal, whom he may puniſh, caſhier, or put to death, as ſoon as he is without the Dardanelles. He commands in chief in all the maritime countries, cities, caſtles, &c. and, at Conſtantinople, is the firſt magiſtrate of police in the villages on the ſide of the Porte, and the canal of the Black-Sea. The mark of his authority is a large Indian cane, which he carries in his hand, both in the arſenal and with the army.—The captain-baſhaw enjoys two ſorts of revenues; the one fixed, the other caſual. The firſt ariſe from a capitation of the iſlands in the Archipelago, and certain governments in Natolia and Galipoli. The latter conſiſt in the pay of the men who die during a campaign; in a fifth of all prizes made by the begs; in the profits accruing from the labour of the ſlaves, whom he hires as rowers to the grand ſignior; and in the contributions he exacts in all places where he paſſes.

CAPTION, in Scots law, a writ iſſuing under his majeſty's ſignet, in his majeſty's name, obtained at the inſtance of a creditor in a civil debt, commanding meſſengers at arms and other officers of the law to apprehend and impriſon the perſon of the debtor until he pay the debt.—It is alſo the name of a writ iſſued by the court of Seſſion againſt the agents of the court, to return papers belonging to proceſſes or law-ſuits, or otherwiſe to go to priſon.

CAPTIVE, a ſlave, or a perſon taken from the enemy.

Formerly captives in war became the ſlaves of thoſe who took them; and though ſlavery, ſuch as obtained among the ancients, is now aboliſhed, ſome ſhadow of it ſtill remains in reſpect of priſoners of war, who are accounted the property of their captors, and have no right to liberty but by conceſſion from them.—The Romans uſed their captives with great ſeverity; their necks were expoſed to the ſoldiers to be trampled on, and their perſons afterwards ſold by public auction. Captives were frequently burnt in the funeral piles of the ancient warriors, as a ſacrifice to the infernal

Captivity || Capua.

fernal gods. Thoſe of royal or noble blood had their heads ſhaven, and their hair ſent to Rome to ſerve as decorations for female toys, &c. They were led in triumph loaded with chains through Rome, in the emperor's train, at leaſt as far as the foot of the Capitoline mount, for they were not permitted to aſcend the ſacred hill, but carried thence to priſon. Thoſe of the prime quality were honoured with golden chains on their hands and feet, and golden collars on their necks. If they made their eſcape, or killed themſelves, to avoid the ignominy of being carried in triumph, their images or effigies were frequently carried in their place.

CAPTIVITY, in a general ſenſe, the ſtate or condition of a captive.

Captivity, in ſacred hiſtory, a puniſhment which God inflicted upon his people for their vices and infidelities. The firſt of theſe captivities is that of Egypt, from which Moſes delivered them; after which, are reckoned ſix during the government of the judges; but the greateſt and moſt remarkable were thoſe of Judah and Iſrael, which happened under the kings of each of theſe kingdoms. It is generally believed, that the ten tribes of Iſrael never came back again after their diſperſion; and Joſephus and St Jerom are of this opinion: nevertheleſs, when we examine the writings of the prophets, we find the return of Iſrael from captivity pointed out in a manner almoſt as clear as that of the tribes of Benjamin and Judah: See Hoſea i. 10, 11. Amos ix. 14. The captivities of Judah are generally reckoned four; the fourth and laſt of which fell in the year of the world 3416, under Zedekiah: and from this period begins the 70 years captivity foretold by Jeremiah.

Since the deſtruction of the temple by the Romans, the Hebrews boaſt that they have always had their heads or particular princes, whom they call *princes of the captivity*, in the eaſt and weſt. The princes of the captivity in the eaſt governed the Jews that dwelt in Babylon, Aſſyria, and Perſia; and the princes of the captivity in the weſt governed thoſe who dwelt in Judæa, Egypt, Italy, and in other parts of the Roman empire. He who reſided in Judæa commonly took up his abode at Tiberias, and aſſumed the name of *Roſchabbath*, "head of the fathers or patriarchs." He preſided in aſſemblies, decided in caſes of conſcience, levied taxes for the expences of his viſits, and had officers under him who were diſpatched through the provinces for the execution of his orders. As to the princes of the captivity at Babylon, or the eaſt, we know neither the original nor ſucceſſion of them. It only appears that they were not in being before the end of the ſecond century.

CAPTURE, a prize, or prey; particularly that of a ſhip taken at ſea. Captures made at ſea were formerly held to be the property of the captors after a poſſeſſion of twenty-four hours; but the modern authorities require, that before the property can be changed, the goods muſt have been brought into port, and have continued a night *intra præſidia*, in a place of ſafe cuſtody, ſo that all hope of recovering them was loſt.

Capture alſo denotes an arreſt or ſeizure of a criminal, debtor, &c. at land.

CAPUA, (anc. geog.) a very ancient city of Italy, in Campania, and capital of that diſtrict. It is famous for the abode of Hannibal the Carthaginian general after the battle of Cannæ, and where Livy accuſes him, but unjuſtly, of having enervated himſelf with pleaſures*. It ſtill retains the name, and is the ſee of an archbiſhop. It is ſeated on the river Vulturno, in E. Long. 15. 5. N. Lat. 41. 7. The hiſtory of Capua is thus ſhortly deduced by Mr Swinburne. "It was a ſettlement of the Oſci known before the foundation of Rome; as the amazing fertility of the land and a lucrative commerce poured immenſe wealth upon its inhabitants, it became one of the moſt extenſive and magnificent cities in the world. With riches exceſſive luxury crept in, and the Capuans grew infolent; but by their effeminacy they ſoon loſt the power of repelling thoſe neighbouring nations which their inſolence had exaſperated: For this reaſon Capua was continually expoſed to the neceſſity of calling in foreign aid, and endangering its ſafety by the uncommon temptations it offered to needy auxiliaries. The Roman ſoldiers ſent to defend Capua were on the point of making it their prey, and often the voice of the Roman people was loud for a removal from the barren unwholeſome banks of the Tiber to the garden of Italy, near thoſe of the Voltorno. Through well-founded jealouſy of the ambition of Rome, or, as Livy and other partial writers term it, natural inconſtancy, the Capuans warmly eſpouſed the quarrel of Carthage: Hannibal made Capua his winter-quarters after the campaign of Cannæ; and there, if we are to believe hiſtorians, his rough and hitherto invincible ſoldiers were enervated by pleaſure and indulence.

Capua.

* See Carthage.

"When through a failure of ſupplies from Carthage Hannibal was under a neceſſity of remaining in Brutium, and leaving the Capuans to defend themſelves, this city, which had been long inveſted, was ſurrendered at diſcretion to the conſuls Appius Claudius and Q. Fulvius Flaccus. The ſenators were put to death, the nobles impriſoned for life, and all the citizens ſold and diſperſed. Vibius, the chief of Hannibal's friends, avoided this ignominious fate, and eſcaped from the cruel vengeance of the Romans by a voluntary death.—When the mob inſiſted upon the gates being thrown open to the enemy, Vibius aſſembled his ſteady aſſociates, and ſat down with them to a ſuperb banquet, after which each of the gueſts ſwallowed a poiſonous draught, and expired in full poſſeſſion of their freedom. The buildings were ſpared by the victor; and Capua was left to be merely a harbour for the huſbandmen of the plain, a warehouſe for goods, and a granary for corn; but ſo advantageous a ſituation could not long be neglected; colonies were ſent to inhabit it, and in proceſs of time it regained a degree of importance.

"Genſeric the Vandal was more cruel than the Roman conquerors had been; for he maſſacred the inhabitants, and burnt the town to the ground. Narſes rebuilt it; but in 841 it was totally deſtroyed by an army of Saracens, and the inhabitants driven into the mountains. Some time after the retreat of theſe ſavage invaders, the Lombards ventured down again into the plain, but not deeming their force adequate to the defence of ſo large a circuit as the old city, they built themſelves a ſmaller one on the river, and called it Capua.—They choſe the ſite of Caſilinum, famous in the ſecond Pu-

Capuchins ‖ Caput Lupinum

nic war for the reſiſtance made by its garriſon againſt Hannibal. Since the foundation of the new city, old Capua has remained in ruins.

"In 856 Landulph formed here an independent earldom diſmembered from the duchy of Benevento, and in the courſe of a few generations Capua acquired the title of a principality. In the 11th century, the Normans of Averſa expelled the Lombard race of princes, and Richard their chief became prince of Capua; the grandſon of Tancred of Hauteville drove out the deſcendants of Richard, and united this ſtate to the reſt of his poſſeſſions.

"Capua is at preſent a neat little city, fortified according to the rules of modern art, and may be conſidered as the key of the kingdom; though far removed from the frontier, it is the only fortification that really covers the approach to Naples."

CAPUCHINS, religious of the order of St Francis in its ſtricteſt obſervance; deriving their name from *capuce*, or *capuchon*, a ſtuff cap, or cowl, wherewith they cover their heads. They are clothed with brown or grey; always bare-footed; are never to go in a coach, nor ever ſhave their beard.—The capuchins are a reform made from the order of minors, commonly called *cordeliers*, ſet on foot in the 16th century by Matthew Baſchi, a religious obſervant of the monaſtery of Montefiaſcone; who, being at Rome, was adverti ſed ſeveral times from heaven, to practiſe the rule of St Francis to the letter. Upon this he made application to pope Clement in 1525; who gave him permiſſion to retire into a ſolitude, with as many others as choſe to embrace the ſtrict obſervance. In 1528, they obtained the pope's bull. In 1529, the order was brought into complete form; Matthew was elected general, and the chapter made conſtitutions. In 1543, the right of preaching was taken from the capuchins by the pope: but in 1545 it was reſtored to them again with honour. In 1578, there were already 17 general chapters in the order of capuchins.

CAPUT, the head. See HEAD.

Caput baroniæ, the head of the barony, in ancient cuſtoms, denotes the ancient or chief ſeat or caſtle of a nobleman, where he made his uſual reſidence, and held his court; ſometimes alſo called *caput honoris*, or the head of the honour. The caput baroniæ could not be ſettled in dowry; nor could it be divided among the daughters, in caſe there were no ſon to inherit; but was to deſcend entire to the eldeſt daughter, *cæteris filiabus aliunde ſatisfactis*.

Caput gallinaginis, in anatomy, is a kind of ſeptum, or ſpongious border, at the extremities or apertures of each of the *veſiculæ ſeminales*; ſerving to prevent the ſeed coming from one ſide, from ruſhing upon, and ſo ſtopping, the diſcharge of the other.

Caput lupinum. Anciently an outlawed felon was ſaid to have *caput lupinum*, and might be knocked on the head like a *wolf*, by any one that ſhould meet him; becauſe, having renounced all law, he was to be dealt with as in a ſtate of nature, when every one that ſhould find him might ſlay him: yet now, to avoid ſuch inhumanity, it is holden that no man is intitled to kill him wantonly and wilfully; but in ſo doing he is guilty of murder, unleſs it is done in the endeavour to apprehend him.

Caput Mortuum, a Latin name given to fixed and exhauſted reſiduums remaining in retorts after diſtillations. As theſe reſiduums are very different, according to the ſubſtances diſtilled, and the degree of heat employed, they are by the more accurate modern chemiſts particularly ſpecified by adding a term denoting their qualities; as *earthy reſiduum*, *charry reſiduum*, *ſaline reſiduum*, &c. Caput Mortuum ‖ Caracalla.

CARABINE, a fire-arm ſhorter than a muſket, carrying a ball of 24 in the pound, borne by the light horſe, hanging at a belt over the left ſhoulder. The barrel is two feet and an half long; and is ſometimes furrowed ſpirally within, which is ſaid to add to the range of the piece.

CARABINEERS, regiments of light horſe, carrying longer carabines than the reſt, and ſometimes uſed on foot.

CARABUS, in zoology, a genus of inſects belonging to the order of coleoptera, or the beetle kind. The feelers are briſtly; the breaſt is ſhaped like a heart, and marginated; and the elytra are likewiſe marginated. There are 34 ſpecies of this genus, moſtly diſtinguiſhed by their colour. The moſt remarkable is the crepitans, or bombardier, with the breaſt, head, and legs, ferruginous or iron-coloured, and the elytra black. It keeps itſelf concealed among ſtones, and ſeems to make little uſe of its wings: when it moves, it is by a ſort of jump; and whenever it is touched, one is ſurpriſed to hear a noiſe reſembling the diſcharge of a muſket, in miniature, during which a blue ſmoke may be perceived to proceed from its anus. The inſect may be made at any time to play off its artillery, by ſcratching its back with a needle. If we may believe Rolander, who firſt made theſe obſervations, it can give 20 diſcharges ſucceſſively. A bladder placed near the anus is the arſenal whence it derives its ſtore, and this is its chief defence againſt an enemy, although the ſmoke emitted ſeems to be altogether inoffenſive, except it be by cauſing a fright, or concealing its courſe. Its chief enemy is another ſpecies of the ſame genus, but four times larger: when purſued and fatigued, the bombardier has recourſe to this ſtratagem, by lying down in the path of the large carabus, which advances with open mouth and claws to ſeize it; but, on this diſcharge of the artillery, ſuddenly draws back, and remains a while confuſed: during which the bombardier conceals himſelf in ſome neighbouring crevice; and if not happy enough to find one, the large carabus returns to the attack, takes the inſect by the head, and tears it off. Plate CXXV.

CARACALLA (M. Antoninus Baſſianus), emperor after his father Severus in 211, put the phyſicians to death for not diſpatching his father as he would have had them. He killed his brother Geta; and put Papinianus to death, becauſe he would not defend nor excuſe his parricide. In ſhort, it is ſaid that 20,000 perſons were maſſacred by his order. He married Julia, his father's widow. Going to Alexandria, he ſlew the inhabitants, and applied to the magicians and aſtrologers. At laſt, going from Edeſſa to Meſopotamia, one of his captains ſlew him, by order of Macrinus, who ſucceeded him. He died after he had reigned ſomewhat more than ſix years.

CARACALLA, in antiquity, a long garment, having a ſort of capuchin, or hood a-top, and reaching to the heels; worn equally among the Romans by the men and

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Caracas, Caracci

and the women, in the city and the camp. Spartian and Xiphilino repreſent the emperor Caracalla as the inventor of this garment, and hence ſuppoſe the appellation *Caracalla* was firſt given him. Others, with more probability, make the caracalla originally a Gallic habit, and only brought to Rome by the emperor above mentioned, who firſt enjoined the ſoldiery to wear it. The people called it *antoninian*, from the ſame prince, who had borrowed the name of Antoninus. The caracalla was a ſort of caſſock, or ſurtout. Salmaſius, Scaliger, and after them Du-Cange, even take the name *caſaque* to have been formed from that of *caraque*, for *caracalla*. This is certain from St Jerom, that the caracalla, with a retreochment of the capuchin, became an eccleſiaſtical garment. It is deſcribed as made of ſeveral pieces cut and ſewed together, and hanging down to the feet; but it is more than probable there were ſome made ſhorter, eſpecially out of Rome, otherwiſe we do not ſee how it could have fitted the ſoldiers purpoſes.

CARACCAS, a diſtrict of Terra Firma in South America, belonging to the Spaniards. The coaſt is rocky and mountainous, interſperſed with ſmall fertile valleys; ſubjected at certain ſeaſons of the year to dry north-weſt winds, but bleſſed in general with a clear air and wholeſome climate. A very great illicit trade is carried on by the Engliſh and Dutch with this province, notwithſtanding all the vigilance of the Spaniards, who have ſcouts perpetually employed, and breaſt-works raiſed in all the valleys. A vaſt number of cacao-trees are cultivated in this province; and it is reckoned that the crop of cacao produced here amounts to more than 100,000 fanegas of 110 pounds each. The country of Santa Fe conſumes 20,000; Mexico a little more; the Canaries a ſmall cargo; and Europe from 50 to 60,000. The cultivation of the plant employs 10 or 12,000 negroes. Such of them as have obtained their liberty have built a little town called *Nirva*, into which they will not admit any white people. The chief town is likewiſe called *Caracas*, and is ſituated in N. Lat. 10. 10. Dampier ſays it ſtands at a conſiderable diſtance from the ſea; is large, wealthy, and populous; and extremely difficult of acceſs, by reaſon of the ſteep and craggy hills over which an enemy muſt take his route. The commerce of this town, to which the bay of Guaira at two leagues diſtance ſerves for a harbour, was for a long time open to all the ſubjects of the Spaniſh monarchy, and is ſtill ſo to the Americans; but the Europeans are not ſo well treated. In 1728 a company was formed at St Sebaſtian, which obtained an excluſive right of maintaining connections with this part of the new world. Four or five ſhips, which they diſpatch every year, ſail from thence, but they return to Cadiz.

CARACCI, (Lewis, Auguſtin, and Hannibal), three celebrated painters of the Lombard ſchool, all of Bologna. Lewis was born in 1555; and was couſin-german to Auguſtin and Hannibal who were brothers, the ſons of a taylor, who was yet careful to give them a liberal education. They were both diſciples of their couſin Lewis. Auguſtin gained a knowledge of mathematics, natural philoſophy, muſic, poetry, and moſt of the liberal arts; but, though painting was his principal purſuit, he learned the art of engraving from Cornelius Cort, and ſurpaſſed all the maſters of his time. Hannibal, again, never deviated from his pencil. —Theſe three painters, at length, having reaped all the advantages they could by contemplation and practice, formed a plan of aſſociation, continued always together, and laid the foundation of that celebrated ſchool which has ever ſince been known by the name of *Caracci's academy*. Hither all the young ſtudents, who had a view of becoming maſters, reſorted to be inſtructed in the rudiments of painting; and here the Caracci taught freely, and without reſerve, all that came. Lewis's charge was to make a collection of antique ſtatues and baſs-reliefs. They had deſigns of the beſt maſters, and a collection of curious books on all ſubjects relating to their art; and they had a ſkilful anatomiſt always ready to teach what belonged to the knitting and motions of the muſcles, &c. There were often diſputations in the academy; and not only painters, but men of learned profeſſions, propoſed queſtions, which were always decided by Lewis. Every body was well received; and though ſtated hours were allotted to treat of different matters, yet improvements might be made at all hours by the antiquities and the deſigns which were to be ſeen. Caracci.

The fame of the Caracci reaching Rome, the cardinal Farneſe ſent for Hannibal thither, to paint the gallery of his palace. Hannibal was the more willing to go, becauſe he had a great deſire to ſee Raphael's works, with the antique ſtatues and baſs-reliefs. The guſto which he took there from the ancient ſculpture, made him change his Bolognian manner for one more learned but leſs natural in the deſign and in the colouring. Auguſtin followed Hannibal, to aſſiſt him in his undertaking of the Farneſe gallery; but the brothers not rightly agreeing, Farneſe ſent Auguſtin to the court of the duke of Parma, where he died in the year 1602, being only 45 years of age. His moſt celebrated piece of painting is that of the communion of St Jerom, in Bologna.

In the mean while, Hannibal continued working in the Farneſe gallery at Rome; and, after inconceivable pains and care, finiſhed the paintings in the perfection in which they are now to be ſeen. He hoped that the cardinal would have rewarded him in ſome proportion to the excellence of his work, and the time it took him up, which was eight years; but he was diſappointed. The cardinal, influenced by an ignorant Spaniard his domeſtic, gave him but a little above 200l though it is certain he deſerved more than twice as many thouſands. When the money was brought him, he was ſo ſurpriſed at the injuſtice done him, that he could not ſpeak a word to the perſon who brought it. This confirmed him in a melancholy to which his temper naturally inclined, and made him reſolve never more to touch his pencil; which reſolution he had undoubtedly kept, if his neceſſities had not compelled him to break it. It is ſaid that his melancholy gained ſo much upon him, that at certain times it deprived him of the uſe of his ſenſes. It did not, however, put a ſtop to his amours; and his debauches at Naples, whither he had retired for the recovery of his health, brought a diſtemper upon him of which he died in 1609, when he was 49 years of age. His veneration for Raphael was ſo great, that it was his deathbed requeſt to be buried in the ſame tomb with him; which was accordingly done, in the pantheon or rotunda at Rome. There are extant ſeveral

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Caracol || Caract.

veral prints of the bleſſed Virgin, and ſome other ſubjects etched by the hand of this incomparable artiſt. He is ſaid to have been a friendly, plain, honeſt, and open-hearted man; very communicative to his ſcholars; and ſo extremely kind to them, that he generally kept his money in the ſame box with his colours, where they might have recourſe to either as they had occaſion.

While Hannibal Caracci worked at Rome, Lewis was courted from all parts of Lombardy, eſpecially by the clergy, to make pictures in their churches; and we may judge of his capacity and facility, by the great number of pictures he made, and by the preference that was given him to other painters. In the midſt of theſe employments Hannibal ſolicited him to come and aſſiſt him in the Farneſe gallery; and ſo earneſtly, that he could not avoid complying with his requeſt. He went to Rome; corrected ſeveral things in that gallery; painted a figure or two himſelf; and then returned to Bologna, where he died in 1619, aged 64.

CARACOL, in the manege, the half turn which an horſeman makes, either to the right or left—In the army, the horſe always makes a caracol after each diſcharge, in order to paſs the rear of the ſquadron.

Caracol, in architecture, denotes a ſtair-caſe in a helix or ſpiral form.

CARACOLI, a kind of metal of which the Caribbees, or natives of the Leſſer Antilles, make a ſort of ornament in the form of a creſcent, which they alſo call *caracoli*.—This metal comes from the main land; and the common opinion is, that it is a compound of ſilver, copper, and gold, ſomething like the Corinthian braſs among the ancients. Theſe metals are ſo perfectly mixed and incorporated together, that the compound which reſults from them, it is ſaid, has a colour that never alters, how long ſoever it remains in the ſea or under ground. It is ſomewhat brittle; and they who work at it are obliged to mix a large proportion of gold with it, to make the compound more tough and malleable.

CARACT, or Carat, the name of that weight which expreſſes the degree of fineneſs that gold is of. The word is alſo written, *carrat*, *carrat*, *karrat*, and *karrat*. Its origin is conteſted: But the moſt probable opinion is that of Kennet, who derives it from *carecta*, a term which anciently denoted any weight, and came not till of later days to be appropriated to that which expreſſes the fineneſs of gold and the gravity of diamonds.

Theſe carats are not real determinate weights, but only imaginary. The whole maſs, be the weight what it will, is conceived to be divided into 24 carats; and as many 24th parts as it contains of pure gold, it is called *gold of ſo many carats*, or *ſo many carats fine*. Thus, gold of 18 carats is a mixt, of which 18 parts is pure gold, and the other ſix an inferior metal, &c. This is the common way of reckoning in Europe, and at the gold mines in the Spaniſh Weſt Indies, but with ſome variation in the ſubdiviſion of the carat: among us, it is divided into four grains; among the Germans, into 12 parts; and by the French, according to Mr Hekot, into 32. The Chineſe reckon by a different diviſion called *touches*, of which the higheſt number, or that which denotes pure gold, is 100; ſo that 100 touches correſpond to our 24 carats, &c.

Caract || Caraites.

Caract is alſo a certain weight which goldſmiths and jewellers uſe wherewith to weigh precious ſtones and pearls.—In this ſenſe, the word is by ſome ſuppoſed to be derived from the Greek κεράτιον, a fruit which the Latins call *ſiliqua*, and we *carob bean*; each of which may weigh about four grains of wheat, whence the Latin *ſiliqua* has been uſed for a weight of four grains. This caract weighs four grains, but they are ſomething lighter than the grains of other weights. Each of theſe grains is ſubdivided in $\frac{1}{4}$, $\frac{1}{8}$, $\frac{1}{16}$, $\frac{1}{32}$, &c.

CARACTACUS, a renowned king of the ancient Britiſh people called *Silures*, inhabiting South Wales. Having valiantly defended his country ſeven years againſt the Romans, he was at length defeated; and flying to Cartiſmanda, queen of the Brigantes (inhabitants of Yorkſhire), was by her treacherouſly delivered up to the Romans, and led in triumph to the emperor Claudius then at York; where his noble behaviour, and heroic but pathetic ſpeech, obtained him not only his liberty, but the eſteem of the emperor, A. D. 52.

CARAGROUTH, in commerce, a ſilver coin of the empire, weighing nine drachms. It goes at Conſtantinople for 120 aſpers. There are four ſorts of them, which are all equally current and of the ſame value.

CARAITES, in the eccleſiaſtical hiſtory of the Jews, a religious ſect among that people, whereof there are ſtill ſome ſubſiſting in Poland, Ruſſia, Conſtantinople, Cairo, and other places of the Levant; whoſe diſtinguiſhing tenet and practice it is, to adhere cloſely to the words and letter of the ſcripture, excluſive of allegories, traditions, and the like.

Leo of Modena, a rabbin of Venice, obſerves, that of all the hereſies among that people, before the deſtruction of the temple, there is none now left but that of the *Caraim*, a name derived from *Micra*, which ſignifies the pure text of the bible; becauſe of their keeping to the Pentateuch, obſerving it to the letter, and rejecting all interpretations, paraphraſes, and conſtitutions of the rabbins. Aben Ezra, and ſome other rabbins, treat the Caraites as Sadducees; but Leo de Juda calls them, more accurately, Sadducees reformed; becauſe they believe the immortality of the ſoul, paradiſe, hell, reſurrection, &c. which the ancient Sadducees denied. He adds, however, that they were doubtleſs originally real Saducees, and ſprung from among them.

M. Simon, with more probability, ſuppoſes them to have riſen hence; that the more knowing among the Jews oppoſing the dreams and reveries of the rabbins, and uſing the pure texts of ſcripture to refute their groundleſs traditions, had the name of *Caraim* given them; which ſignifies as much as the barbarous Latin, *Scripturarii*; i. e. people attached to the text of ſcripture. The other Jews give them the odious name Sadducees, from their agreement with thoſe ſectaries on the head of traditions. Scaliger, Voſſius, and Spanheim, rank the Caraites among the Sabeans, Magi, Manichees, and Muſſulmans, but by miſtake: Wolfgang, Fabricius, &c. ſay the Sadducees and Eſſeni were called Caraites, in oppoſition to the Phariſees: others take them for the doctors of the law ſo often mentioned in the goſpel: but theſe are all conjectures. Joſephus and Philo make no mention of them; which

ſhows

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Caraites. shows them to be more modern than either of those authors. In all probability, this sect was not formed till after the collection of the second part of the Talmud, or the Gemara; perhaps not till after the compiling of the Mischna in the third century. The Caraites themselves pretend to be the remains of the ten tribes led captive by Shalmaneser. Wolfius, from the Memoirs of Mardacheus, a Caraite, refers their origin to a massacre among the Jewish doctors, under Alexander Jannæus, their king, about 100 years before Christ: because Simeon, son of Schetach, and the queen's brother, making his escape into Egypt, there forged his pretended traditions; and, at his return to Jerusalem, published his visions; interpolating the law after his own fancy, and supporting his novelties on the notices which God, he said, had communicated by the mouth of Moses, whose depositary he was: he gained many followers; and was opposed by others, who maintained, that all which God had revealed to Moses was written. Hence the Jews became divided into two sects, the Caraites and Traditionaries: among the first, Juda, son of Tabbai, distinguished himself; among the latter, Hillel. Wolfius reckons not only the Sadducees, but also the Scribes, in the number of Caraites. But the address of the Pharisees prevailed against them all; and the number of Caraites decreased: Anan, indeed, in the eighth century, retrieved their credit a little; and rabbi Schalomon in the ninth. They succeeded pretty well till the fourteenth; but since that time they have been declining.

The Caraites are but little known; their works coming only into very few hands, even among the greatest Hebraists. Buxtorf never saw more than one; Selden two; but Mr Trigland says, he has recovered enough to speak of them with assurance. He asserts, that soon after the prophets had ceased, the Jews became divided on the subject of works, and supererogation: some maintaining their necessity from tradition; whilst others keeping close to the written law, set them aside; and it was from these last that Caraitism commenced. He adds, that after the return from the Babylonish captivity, the observation of the law being to be re-established, there were several practices found proper for that end; and these once introduced, were looked upon as essential, and appointed by Moses; which was the origin of Pharisaism; as a contrary party, continuing to keep close to the letter, founded Caraitism.

The modern Caraites, Leo of Modena observes, have their synagogues and ceremonies; they pretend to be the sole proper Jews, or observers of the laws of Moses; calling the rest by the term *Rabbanim*, or *followers of the Rabbins:* these hate the Caraites mortally; refusing to ally or even converse with them, and treating them as *mamzerim*, or bastards; because of their rejecting the constitutions of the rabbins relating to marriages, repudiations, purifications of women, &c. This aversion is so great, that if a Caraite would become a rabbinist, he would ever be received by the other Jews.

The Caraites, however, do not absolutely reject all kind of traditions; but only such as do not appear well-grounded. Selden, who is very express on this point, in his Uxor Hebraica, observes, that besides the mere text, they have certain interpretations, which they call hereditary, and which are proper traditions. Their theology only seems to differ from that of the other Jews, in that it is purer, and clearer of superstition: they give no credit to the explications of the Cabbalists, chimerical allegories, nor to any constitutions of the Talmud, but what are conformable to the scripture, and may be drawn from it by just and necessary consequences. Caramania ‖ Caravan.

Peringer observes of the Caraites in Lithuania, that they are very different, both in aspect, language, and manners, from the rabbinists, wherewith that country abounds. Their mother tongue is the Turkish; and this they use in their schools and synagogues. In visage they resemble the Mahometan Tartars. Their synagogues are placed north and south; and the reason they give for it is, that Shalmaneser brought them northward: so that in praying, to look to Jerusalem, they must turn to the south. He adds, that they admit all the books of the Old Testament; contrary to the opinion of many of the learned, who hold that they reject all but the Pentateuch.

Caleb, a Caraite, reduces the difference between them and the rabbinists to three points: 1. In that they deny the oral law to come from Moses, and reject the Cabbala. 2. In that they abhor the Talmud. 3. In that they observe the feasts, as the sabbaths, &c. much more rigorously than the rabbins do. To this may be added, that they extend the degrees of affinity, wherein marriage is prohibited, almost to infinity.

CARAMANIA, a considerable province of Turky, in Asia, in the south part of Natolia. Bajazet united this province to his empire about the year 1488, and since that time it has continued in the possession of the Turks. Satalia was the capital city, but is now much decayed.

CARAMANTA, a town of South America, and capital of a province of the same name in Terra Firma, and in the audience of Santa Fe. W. Long. 72. 35. N. Lat. 5. 18. The province of Caramanta is extended on both sides the river Cauca; and is bounded on the north by the district of Carthagena, on the east by New Grenada, on the south by Popayan, and on the west by Popayan and by the audience of Panama. It is a valley surrounded on every side by very high mountains.

CARANGA, an inconsiderable island near Boiobay in the East Indies. It affords nothing but some rice, fowls, and goats, for that market.

CARANNA, or Karanna, a very scarce gum which comes from New Spain. It is said to possess many extraordinary medical virtues, but the present practice takes no notice of it.

CARANUS, the first king of Macedon, and the seventh of the race of the Heraclides. See Macedonia.

CARARA, a weight at Leghorn, and in other parts of Italy, used in the sale of wool and cod-fish, equivalent to 60 pounds of that country.

CARAT. See Caract.

CARAVAGGIO (Michael Angelo da). See Angelo.

CARAVAN, or Karavanne, in the east, signifies a company or assembly of travellers and pilgrims, and more particularly of merchants, who, for their greater security, and in order to assist each other, march in a body through the deserts, and other dangerous places, which are infested with Arabs or robbers.

There

Caravan, Caravanſera.

There are four regular caravans which go yearly to Mecca; the firſt from Damaſcus, compoſed of the pilgrims from Europe and Aſia; the ſecond from Cairo, for the Mahometans of Barbary; the third from Zibith, a place near the month of the Red Sea, where thoſe of Arabia and India meet; the fourth from Babylon, where the Perſians aſſemble. Moſt of the inland commerce of the Eaſt is carried on by caravans. The late czar Peter the Great eſtabliſhed a trade between Ruſſia and China by means of a caravan. M. Bougnon, geographer to the duke of Lorrain, has given a treatiſe of the caravans of merchants in Aſia; wherein he ſhows of what they are compoſed, how many ſorts there are, the ſeveral uſes of the different ſorts of animals in them; the prices given for them, the officers and men appointed to conduct them, and the pay of each, with their manner of marching, halting, fighting, retreating, &c. Caravans of this kind are large convoys of armed men, merchants, and travellers, with divers ſorts of animals for the carriage of their proviſions. There are commonly four chief officers of a caravan, viz. the caravan bachi, or chief; the captain-guide; captain of reſt; and captain of diſtribution. The firſt has abſolute command over all the reſt: the ſecond is abſolute in the march: the office of the third only commences when the caravan ſtops and makes a ſtay: to the fourth it belongs to diſpoſe of every part of the corps, in caſe of an attack or battle; he has alſo the inſpection over the diſtribution of proviſions, which is made under him by ſeveral diſtributors, who give ſecurity to the maſter of the caravan, and have each of them a certain number of perſons, elephants, dromedaries, &c. to take care of at their own peril. The treaſurer of the caravan makes a fifth officer, who has under him ſeveral agents and interpreters, who keep journals of all that paſſes, for the ſatisfaction of thoſe concerned in fitting out the caravan.

Any dealer is at liberty to form a company, in order to make a caravan. He in whoſe name it is raiſed, is conſidered as the caravan bachi or chief of the caravan, unleſs he appoint ſome other in his place. If there are ſeveral merchants equally concerned, they elect a caravan bachi; after which, they appoint officers to conduct the caravan and decide all controverſies that may ariſe during the journey.

There are alſo ſea caravans; eſtabliſhed on the ſame footing, and for the ſame purpoſes: ſuch is the caravan of veſſels from Conſtantinople to Alexandria.

CARAVANSERA, or Karavansera, a place appointed for receiving and loading the caravans.

It is commonly a large ſquare building, in the middle of which there is a very ſpacious court; and under the arches or piazzas that ſurround it there runs a bank, raiſed ſome feet above the ground, where the merchants, and thoſe who travel with them in any capacity, take up their lodgings as well as they can; the beaſts of burden being tied to the foot of the bank. Over the gates that lead into the court, there are ſometimes little rooms, which the keepers of the caravanſeras let out at a very high price to ſuch as have a mind to be private.

The caravanſeras in the Eaſt are ſomething of the nature of the inns in Europe; only that you meet with little accommodation either for man or beaſt, but are obliged to carry almoſt every thing with you: there is never a caravanſera without a well, or ſpring of water. Theſe buildings are chiefly owing to the charity of the Mahometans; they are eſteemed ſacred dwellings, where it is not permitted to inſult any perſon, or to pillage any of the effects that are depoſited there. There are alſo caravanſeras where moſt things may be had for money; and as the profits of theſe are conſiderable, the magiſtrates of the cities to whoſe juriſdiction they belong, take care to ſtore them well. There is an inſpector, who, at the departure of each caravan, fixes the price of the night's lodging, from which there is no appeal.

Caravanſeraſkier ‖ Carcaſſe.

CARAVANSERASKIER, the ſteward or keeper of a Caravansera. He keeps an account of all the merchandiſes that are ſold upon truſt, and demands the payments of the ſums due to the merchants for what has been ſold in the caravanſera, on the ſeller's paying two per cent.

CARAVEL; thus they call a ſmall veſſel on the coaſt of France, which goes to fiſh for herring on the banks. They are commonly from 25 to 30 tons burden. Thoſe which are deſigned for the ſame fiſhery in the Britiſh channel are called by the French *trinquarts*: theſe are from 12 to 15 tons burden.

CARAWAY, in botany. See Caraum.

CARBONADE, or Carbonado, in cookery; fleſh, fowl, or the like, ſeaſoned and broiled on the coals.

CARBUNCLE, in natural hiſtory, a very elegant gem, whoſe colour is deep red, with an admixture of ſcarlet.

This gem was known among the ancients by the name of *anthrax*. It is uſually found pure and faultleſs, and is of the ſame degree of hardneſs with the ſapphire: it is naturally of an angular figure; and is found adhering, by its baſe, to a heavy and ferruginous ſtone of the emery kind: its uſual ſize is near a quarter of an inch in length, and two thirds of that in diameter in its thickeſt parts: when held up againſt the ſun, it loſes its deep tinge, and becomes exactly of the colour of a burning charcoal, whence the propriety of the name which the ancients gave it. It bears the fire unaltered, not parting with its colour, nor becoming at all the paler by it. It is found only in the Eaſt Indies, ſo far as is yet known; and there but very rarely.

Carbuncle, or *Anthrax*, in medicine, an inflammation which ariſes, in time of the plague, with a veſicle or bliſter almoſt like that produced by burning.

Carbuncle, in heraldry, a charge or bearing, conſiſting of eight radii, four whereof make a common croſs, and the other four a ſaltier.

Some call theſe radii *buttons*, or ſtaves, becauſe round, and enriched with buttons, or pearled like pilgrim's ſtaves, and frequently tipped or terminated with flower-de-luces; others blazon them, royal ſceptres, placed in ſaltier, pale and feſſe.

CARCASSE, or Caacus, in the art of war, an iron caſe, or hollow capacity, about the bigneſs of a bomb, of an oval figure, made of ribs of iron, filled with combuſtible matters, as meal-powder, ſalpetre, ſulphur, broken glaſs, ſhavings of horn, turpentine, talluw, &c. It has two or three apertures out of which the fire is to blaze; and the deſign of it is to be thrown

Carcaſſonne ‖ Carceres.

ont of a mortar, to ſet houſes on fire, and on other execution. It has the name *carcaſſe*, becauſe the circles which paſs from one ring or plate to the other ſeem to repreſent the ribs of a human carcaſe.

CARCASSONNE, an ancient city of France, in Lower Languedoc, with a biſhop's ſee. It is divided into the upper and lower town. They are both ſurrounded with walls; and though their ſituations are different, they are both watered by the river Aude. The upper town is ſeated on a hill, with a caſtle that commands it, as well as the lower town. It is ſtrong, not only by its ſituation on a craggy rock, but alſo by ſeveral large towers which are joined to its walls, and which render it of difficult acceſs. The cathedral church is remarkable for nothing but its antiquity. The lower town is large, and built after the modern taſte. The ſtreets are very ſtraight, and lead to a large ſquare in the middle, from whence may be ſeen the four gates of the town. There is here a manufacture of cloth. The neighbouring country is full of olive-trees; and in the mountains there is a fine marble, commonly called *marble of Languedoc*. E. Long. 2. 25. N. Lat. 43. 11.

This place bore a conſiderable ſhare in that celebrated cruſade undertaken againſt the Albigenſes in the beginning of the 13th century, and which forms one of the moſt aſtoniſhing inſtances of ſuperſtition and of atrocious barbarity to be found in the annals of the world. When the royal power was nearly annihilated, during the reigns of the laſt kings of the Carlovingian race in France, moſt of the cities of Languedoc erected themſelves into little independent ſtates, governed by their own princes. Carcaſſonne was then under the dominion of viſcounts. At the time when Pope Innocent III. patronized and commanded the proſecution of hoſtilities againſt the Albigenſes for the crime of hereſy, Raymond the reigning viſcount was included in that proſcription. Simon de Montfort, general of the army of the church, inveſted the city of Carcaſſonne in 1209. The inhabitants, terrified at the fate of ſeveral other places where the moſt dreadful maſſacres had been committed, demanded leave to capitulate; but this act of mercy was only extended to them under a condition equally cruel, incredible, and unparalleled in hiſtory, if we were not compelled to believe it by the unanimous teſtimony of all the cotemporary writers. The people found in the place were all obliged, without diſtinction of rank or ſex, to evacuate it in a ſtate of nudity; and Agnes the viſcounteſs was not exempted, though young and beautiful, from this ignominious and ſhocking puniſhment. "On les fit ſortir tout nuds de la ville de Carcaſſonne (ſays an ancient author) afin qu'ils receuſſent de la honte, en montrant ces parties du corps que la pureté de la langue n'exprime point, deſquelles ils avoient abuſé, et s'en étoient ſervis dans des crimes execrables." It ſeems by this imputation that the Albigeois were accuſed by their enemies of ſome enormities, probably unjuſt, and ſimilar to thoſe which religious enmity and prejudice have attributed to the followers of Zinzendorf in the preſent century.

CARCERES, in the ancient Circenſian games, were incloſures in the circus, wherein the horſes were reſtrained till the ſignal was given for ſtarting, when, by an admirable contrivance, they all at once flew open.

Carchemiſh ‖ Cards.

CARCHEMISH (anc. geog.), a town lying upon the Euphrates, and belonging to the Aſſyrians. Necho king of Egypt took it from the king of Aſſyria, 2 Chr. xxxv. 20. Necho left a garriſon in it, which was taken and cut to pieces, in the fourth year of Jehoiachan king of Judah, by Nebuchadnezzar king of Babylon, 2 Kings xxiii. 29. Iſaiah (x. 9.) ſpeaks of Carchemiſh, and ſeems to ſay, that Tiglath peleſer made a conqueſt of it, perhaps from the Egyptians. This is thought to be the ſame city with that called Circeſium by the Greeks and Latins.

CARCINOMA, in medicine; the ſame with Cancer.

CARD, among artificers, an inſtrument conſiſting of a block of wood, beſet with ſharp teeth, ſerving to arrange the hairs of wool, flax, hemp, and the like: there are different kinds of them, as hand-cards, ſtock-cards, &c. They are made as follows:

A piece of thick leather, of the ſize intended for the card, is ſtrained in a frame for that purpoſe; and then pricked full of holes, into which the teeth or pieces of iron wire are inſerted. After which the leather is nailed by the edges to a flat piece of wood, in the form of an oblong ſquare, about a foot in length and half a foot in breadth, with a handle placed in the middle of one of the longer ſides.

The teeth are made in the following manner. The wire being drawn of the ſize intended, a ſkain or number of wires are cut into proper lengths by means of a gauge, and then doubled in a tool contrived for that purpoſe: after which they are bent into the proper direction by means of another tool; and then placed in the leather, as mentioned above.

Cards, among gameſters, little pieces of fine thin paſteboard of an oblong figure, of ſeveral ſizes; but moſt commonly, in Britain, three inches and an half long and two and an half broad, on which are painted ſeveral points and figures.

The moulds and blocks for making cards are exactly like thoſe that were uſed for the firſt printed books. They lay a ſheet of wet or moiſt paper on the block, which is firſt ſlightly done over with a ſort of ink made of lamp-black diluted in water, and mixed with ſome ſtarch to give it a body. They afterwards rub it off with a round liſt. The court-cards are coloured by means of ſeveral patterns, ſtyled *ſtame-ſkes*. Theſe conſiſt of papers cut through with a penknife; and in theſe apertures they apply ſeverally the various colours, as red, black, &c. Theſe patterns are painted with oil-colours, that the bruſhes may not wear them out; and when the pattern is laid on the paſteboard, they ſlightly paſs over it a bruſh-full of colour, which, leaving it within the openings, forms the face or figure of the card.

Among ſharpers, divers ſorts of falſe and fraudulent cards have been contrived; as, 1. *Marked* cards, where the aces, kings, queens, knaves, are marked on the corners of the backs with ſpots of different number and order, either with clear water or water tinged with pale Indian ink, that thoſe in the ſecret may diſtinguiſh them. Aces are marked with ſingle ſpots on two corners oppoſite diagonally; kings with two ſpots at the ſame corners; knaves with the ſame number tranſverſed. 2. *Breef* cards, thoſe which are longer or broader than the reſt; chiefly uſed at whiſt and piquet. The

Cards, Cardamine.

broad cards are uſually for kings, queens, knaves, and aces; the long for the reſt. Their deſign is to direct the cutting, to enable him in the ſecret to cut the cards diſadvantageouſly to his adverſary, and draw the perſon unacquainted with the fraud to cut them favourably for the ſharper. As the pack is placed either endwiſe or ſidewiſe to him that is to cut, the long or broad cards naturally lead him to cut to them. Breef cards are ſometimes made thus by the manufacturer; but, in defect of theſe, ſharpers pare all but the breeſs with a penknife or razor. 3. *Corner bend*, denotes four cards turned down finely at one corner, to ſerve as a ſignal to cut by. 4. *Middle bend*, or Kingſton-bridge, is where the tricks are bent two different ways, which cauſes an opening or arch in the middle, to direct likewiſe the cutting.

Cards were invented about the year 1390, to divert Charles VI. of France, who had fallen into a melancholy diſpoſition. The inventor propoſed, by the figures of the four ſuits or colours, as the French call them, to repreſent the four claſſes of men in the kingdom. By the *cœurs* (hearts) are meant the *gens de chœur*, choir-men, or eccleſiaſtics; and therefore the Spaniards, who certainly received the uſe of cards from the French, have *copas*, or chalices, inſtead of hearts. The nobility, or prime military part of the kingdom, are repreſented by the ends or points of lances or pikes; and our ignorance of the meaning or reſemblance of the figure induced us to call them *ſpades*: The Spaniards have *eſpadas*, ſwords, in lieu of pikes, which are of ſimilar import. By diamonds are deſigned the order of citizens, merchants, or tradeſmen, *carreaux*, (ſquare ſtones, tiles, or the like): The Spaniards have a coin, *dineros*, which anſwers to it; and the Dutch call the French word *carreaux* "*ſtreneen*," ſtones and diamonds, from the form. *Trefle*, the trefoil-leaf, or clover-graſs (corruptly called *clubs*), alludes to the huſbandmen and peaſants. But how this ſuit came to be called *clubs* is not eaſily explained; unleſs, borrowing the game from the Spaniards, who have *baſtos* (ſtaves or clubs) inſtead of the trefoil, we give the Spaniſh ſignification to the French figure.

The hiſtory of the four kings, which the French, in drollery, ſometimes call the *cards*, are David, Alexander, Cæſar, and Charles; which names were then, and ſtill are, on the French cards. Theſe reſpectable names repreſent the four celebrated monarchies of the Jews, Greeks, Romans, and Franks under Charlemagne. By the queens are intended Argine, Eſther, Judith, and Pallas (names retained in the French cards), typical of birth, piety, fortitude, and wiſdom, the qualifications reſiding in each perſon. *Argine* is an anagram for *regina*, queen by deſcent. By the knaves were deſigned the ſervants to knights (for *knave* originally meant only *ſervant*); but French pages and valets, now indiſcriminately uſed by various orders of perſons, were formerly only allowed to perſons of quality, eſquires (*eſcuires*), ſhield or armour bearers. Others fancy that the knights themſelves were deſigned by thoſe cards; becauſe Hogier and Lahire, two names on the French cards, were famous knights at the time cards were ſuppoſed to have been invented.

Deceptions with CARDS. See LEGERDEMAIN, ſect. i.

CARDAMINE, in botany: A genus of the ſiliquoſa order, belonging to the tetradynamia claſs of plants; and in the natural method ranking under the 39th order, *Siliquoſæ*. The ſiliqua parts aſunder with a ſpring, and the valves roll ſpirally backward; the ſtigma is entire, and the calyx a little gaping. Of this there are 15 ſpecies; but the moſt remarkable is the pratenſis, with a large purpliſh flower. This grows naturally in many parts of Britain, and is alſo called *cuckow-flower*. There are four varieties, viz. the ſingle, with purple and white flowers, which are frequently intermixed in the meadows; and the double, of both colours. The ſingle ſorts are not admitted into gardens; but the double deſerve a place, as making a pretty appearance during the time they are in flower. They will thrive in a moiſt ſhady border; and are propagated by parting their roots, which is beſt performed in autumn. They delight in a ſoft loamy ſoil, not too ſtiff. By ſome the plant is reckoned antiſcorbutic.

Cardamom, Cardan.

CARDAMOM, in the Materia Medica. See AMOMUM.

CARDAN (Jerom), one of the moſt extraordinary geniuſes of his age, was born at Pavia on the 24th of September 1501. As his mother was not married, ſhe tried every method to procure an abortion, but without effect. She was three days in labour, and they were at laſt obliged to cut the child from her. He was born with his head covered with black curled hair. When he was four years old, he was carried to Milan; his father being an advocate in that city. At the age of 20, he went to ſtudy in the univerſity of that city; and two years afterwards he explained Euclid. In 1524, he went to Padua; and the ſame year he was admitted to the degree of maſter of arts: in the end of the following year, he took the degree of doctor of phyſic. He married about the year 1531. For ten years before, his impotency had hindered him from having knowledge of a woman; which was a great mortification to him. He attributed it to the evil influences of the planet under which he was born. When he enumerates, as he frequently does, the greateſt misfortunes of his life, this ten years impotency is always one. At the age of 32, he became profeſſor of mathematics at Milan. In 1539, he was admitted member of the college of phyſicians at Milan; in 1543, he read public lectures of medicine in that city, and at Pavia the year following; but diſcontinued them becauſe he could not get payment of his ſalary, and returned to Milan. In 1552, he went into Scotland, having been ſent for by the Archbiſhop of St Andrew's, who had in vain applied to the French king's phyſicians, and afterwards to thoſe of the emperor of Germany. This prelate, then 40 years old, had for ten years been afflicted with a ſhortneſs of breath, which returned every eight days for the two laſt years. He began to recover from the moment that Cardan preſcribed for him. Cardan took his leave of him at the end of ſix weeks and three days, leaving him preſcriptions which in two years wrought a complete cure.

Cardan's journey to Scotland gave him an opportunity of viſiting ſeveral countries. He croſſed France in going thither; and returned through Germany, and the Low Countries, along the banks of the Rhine. It was on this occaſion he went to London, and calculated king Edward's nativity. This tour took up about four months: after which, coming back to Milan, he continued there till the beginning of October 1552; and

Cardan. and then went to Pavia, from whence he was invited to Bologna in 1562. He taught in this laſt city till the year 1570; at which time he was thrown into priſon; but ſome months after he was ſent home to his own houſe. He left Bologna in 1571: and went to Rome, where he lived for ſome time without any public employment. He was, however, admitted a member of the college of phyſicians, and received a penſion from the pope. He died at Rome on the 21ſt of September 1575, according to Thuanus. This account might be ſufficient to ſhow the reader that Cardan was of a very fickle temper; but he will have a much better idea of his ſingular and odd turn of mind by examining what he himſelf has written concerning his own good and bad qualities. He paid himſelf congratulatory compliments for not having a friend in this world; but that, in requittal, he was attended by an aerial ſpirit, emaned partly from Saturn and partly from Mercury, who was the conſtant guide of his actions, and teacher of every duty to which he was bound. He declared, too, that he was ſo irregular in his manner of walking the ſtreets, as induced all beholders to point at him as a fool. Sometimes he walked very ſlowly, like a man abſorbed in profound meditation; then all on a ſudden quickened his ſteps, accompanying them with very abſurd attitudes. In Bologna his delight was to be drawn about in a mean vehicle with three wheels. When nature did not viſit him with any pain, he would procure to himſelf that diſagreeable ſenſation by biting his lips ſo wantonly, or pulling his fingers to ſuch a vehement degree, as ſometimes to force the tears from his eyes: and the reaſon he aſſigned for ſo doing, was to moderate certain impetuous ſallies of the mind, the violence of which was to him by far more inſupportable than pain itſelf; and that the ſure conſequence of ſuch a ſevere diſcipline was the enjoying the pleaſure of health. He ſays elſewhere, that, in his greateſt tortures of ſoul, he uſed to whip his legs with rods, and bite his left arm; that it was a great relief to him to weep, but that very often he could not; that nothing gave him more pleaſure than to talk of things which made the whole company uneaſy; that he ſpoke on all ſubjects, in ſeaſon and out of ſeaſon; and he was ſo fond of games of chance, as to ſpend whole days in them, to the great prejudice of his family and reputation, for he even ſtaked his furniture and his wife's jewels.

Cardanus makes no ſcruple of owning that he was revengeful, envious, treacherous, a dealer in the black art, a backbiter, a calumniator, and addicted to all the foul and deteſtable exceſſes that can be imagined: yet, notwithſtanding (as one would think) ſo humbling a declaration, there was never perhaps a vainer mortal, or one that with leſs ceremony expreſſed the high opinion he had of himſelf, than Cardanus was known to do, as will appear by the following proofs. "I have been admired by many nations: an infinite number of panegyrics, both in proſe and verſe, have been compoſed to celebrate my fame. I was born to releaſe the world from the manifold errors under which it groaned. What I have found out could not be diſcovered either by my predeceſſors or my cotemporaries; and that is the reaſon why thoſe authors who write any thing worthy of being remembered, ſcruple not to own that they are indebted to me for it. I have compoſed a book on the dialectic art, in which there is neither one ſuperfluous letter nor one deficient. I finiſhed it in ſeven days, which ſeems a prodigy. Yet where is there a perſon to be found, that can boaſt of his having become maſter of its doctrine in a year? And he that ſhall have comprehended it in that time, muſt appear to have been inſtructed by a familiar dæmon."

Cardan || Carders.

The ſame capriciouſneſs obſervable in his outward conduct is to be obſerved in the compoſition of his works. We have a multitude of his treatiſes in which the reader is ſtopped almoſt every moment by the obſcurity of his text, or his digreſſions from the point in hand. In his arithmetical performances there are ſeveral diſcourſes on the motions of the planets, on the creation, and on the tower of Babel. In his dialectic work, we find his judgment on hiſtorians and the writers of epiſtles. The only apology which he makes for the frequency of his digreſſions is, that they were purpoſely done for the ſooner filling up of his ſheet, his bargain with the bookſeller being at ſo much per ſheet; and that he worked as much for his daily ſupport as for the acquiſition of glory. The Lyons edition of his works, printed in 1663, conſiſts of ten volumes in folio.

It was Cardanus who revived in latter times all the ſecret philoſophy of the Cabbala or Cabbaliſts, which filled the world with ſpirits; a likeneſs to whom, he aſſerted, we might attain by purifying ourſelves with philoſophy. He choſe for himſelf, however, notwithſtanding ſuch reveries, this fine device, *Tempus meæ poſſeſſio, tempus meus ager:* "Time is my ſole poſſeſſion, and the only fund I have to improve."

In fact, when we conſider the tranſcendent qualities of Cardan's mind, we cannot deny his having cultivated it with every ſpecies of knowledge, and his having made a greater progreſs in philoſophy, in the medical art, in aſtronomy, in mathematics, &c. than the greateſt part of his cotemporaries who had applied their minds but to one of thoſe ſciences.

Scaliger affirms, that Cardan, having fixed the time of his death, abſtained from food, that his prediction might be fulfilled, and that his continuance to live might not diſcredit his art. Cardan's father, who was a doctor of medicine, and a profeſſor of civil and canon law, died in the ſame manner, in the year 1524, having abſtained from all ſuſtenance for nine days. His ſon tells us, that he had white eyes, and could ſee in the night-time.

CARDASS, a ſort of card, proper for carding flocks of ſilk, to make cappadine of it. It is alſo the name which the French give to thoſe flocks of ſilk.

Cardassas, is alſo the name which, in the cloth manufactories of Languedoc, they give to a ſort of large card, which is uſed for carding the dyed wool, deſigned for making cloth of mixed colours.

CARDERS, in the woollen manufactory, are perſons who prepare wool, &c. for ſpinning, &c.

Carders, ſpinners, weavers, fullers, ſheermen, and dyers, not performing their duty in their occupations, ſhall yield to the party grieved double damages; to be committed until payment. One juſtice to hear and determine complaints.

Carders, combers, ſorters, ſpinners, or weavers,

Cardi ll Cardigan.

conveying away, embezzling, or detaining any wool or yarn, delivered by the clothier, or any other perſon, ſhall give the party grieved ſuch ſatisfaction, as two juſtices, mayor, &c. ſhall think fit: if not able or willing to make ſatisfaction, for the firſt offence to be whipped, or ſet in the ſtocks in ſome market-town, or in any other town where the offence is committed: the ſecond offence to inear the like, or ſuch further puniſhment by whipping, &c. as juſtices ſhall think proper. Conviction by one witneſs on oath, or confeſſion.

CARDI (Lodovico). See CIVOLI.

CARDIAC, in a general ſenſe, ſignifies all medicines beneficial to the heart, whether internally or externally applied. The word comes from the Greek word καρδια, *cor*; the heart being reputed the immediate ſeat of their operation.

CARDIACS, in a more particular ſenſe, denote medicines which raiſe the ſpirits, and give preſent ſtrength and cheerfulneſs; theſe amount to the ſame with what are popularly called *cordials*. Cardiacs are medicines anciently ſuppoſed to exert themſelves immediately in comforting and ſtrengthening the heart: but the modern phyſicians rather ſuppoſe them to produce the effect by putting the blood into a gentle fermentation, whereby the ſprings, before decayed, are repaired and invigorated, and the tone and elaſticity of the fibres of the veſſels reſtored; the conſequence of which is a more eaſy and briſk circulation.

CARDIALGIA, in medicine, a violent ſenſation of heat or acrimony felt towards the upper or left orifice of the ſtomach, though ſeemingly at the heart; ſometimes accompanied with palpitations of the heart, fainting, and a propenſity to vomit: better known by the name of *cardiac paſſion*, or *heart-burn*. See (*Index ſubjoined to*) MEDICINE.

CARDIFF, a town of Glamorganſhire, in South Wales, ſeated on the river Tave, in a rich and fruitful ſoil. It is a large, compact, well built town, having a caſtle, a wall, and four gates, built by Robert Fitz-Hamon, a Norman, about the year 1100. It is governed by the conſtable of the caſtle, 12 aldermen, 12 burgeſſes, &c. and ſends one member to parliament. Here the aſſizes and ſeſſions are held, beſides ſeveral courts. There is a handſome bridge over the river, to which ſmall veſſels come to take in their lading. It has now only one church, St Mary's having been long ſince thrown down by the undermining of the river. The caſtle, though much decayed, makes a grand appearance even at this time; and the walls of the town are very ſtrong and thick. The church has a fine tower-ſteeple, and the town-hall is a good ſtructure. The magiſtrates are elected every year by the majority of the burgeſſes. W. Long. 3. 20. N. Lat. 51. 30. Cardiff gives title of Britiſh Baron to the family of Bute in Scotland.

CARDIGAN, the capital town of Cardiganſhire, in South Wales, is ſeated near the mouth of the river Teivy, on the Iriſh channel. It is indifferently large and well-built, containing three wards, one church, and the county-gaol. It is governed by a mayor, 13 aldermen, 13 common-council-men, &c. Here are the ruins of a caſtle which was built by Gilbert de Clare, about the year 1160. It ſends one member to Parliament; and has two markets, held on Tueſdays and Saturdays. W. Long. 4. 38. N. Lat. 52. 15.

CARDIGANSHIRE, a county of South Wales, bounded on the north by Merionethſhire and Montgomeryſhire, on the eaſt by Radnorſhire and Brecknockſhire, on the weſt by the Iriſh Sea, and on the ſouth by Caermarthenſhire. Its length from north-weſt to ſouth-eaſt is about 44 miles, and its breadth near 20. The air, as in other parts of Wales, varies with the ſoil, which in the ſouthern and weſtern parts is more upon a level than this principality generally is, which renders the air mild and temperate. But as the northern and eaſtern parts are mountainous, they are conſequently more barren and bleak. However, there are cattle bred in all parts; but they have neither wood nor coals of their own for fuel: they have rich lead mines, and fiſh in plenty, with fowls both tame and wild. The principal rivers are the Teivy, the Ridol, and the Iſtwith. This county hath five market-towns, viz. Cardigan, Aberiſtwith, Llanbadarnvawn, Llanbedar, and Tregaron, with 77 pariſhes; and was formerly computed to have upward of 3000 houſes, and 520,000 acres of land. It ſends two members to parliament; one for the county, and one for Cardigan.

Cardigan-ſhire ll Cardinal.

CARDINAL, in a general ſenſe, an appellation given to things on account of their pre-eminence. The word is formed of the Latin *cardo*, *a hinge*; it being on theſe fundamental points that all the reſt of the ſame kind are ſuppoſed to turn. Thus, juſtice, prudence, temperance, and fortitude, are called the four *cardinal virtues*, as being the baſis of all the reſt.

CARDINAL Flower, in botany. See LOBELIA.

CARDINAL Points, in coſmography, are the four interſections of the horizon with the meridian, and the prime vertical circle. Of theſe, two, viz. the interſections of the horizon and meridian, are called *North* and *South*, with regard to the poles they are directed to. The other two, viz. the interſections of the horizon, and firſt vertical, are called *Eaſt* and *Weſt*.

The cardinal points, therefore, coincide with the four cardinal regions of the heavens; and are 90° diſtant from each other. The intermediate points are called *collateral points*.

CARDINAL Points, in aſtrology, are the riſing and ſetting of the ſun, the zenith, and nadir.

CARDINAL Signs, in aſtronomy, are Aries, Libra, Cancer, and Capricorn.

CARDINAL Winds, are thoſe that blow from the cardinal points.

CARDINAL Numbers, in grammar, are the numbers one, two, three, &c. which are indeclinable; in oppoſition to the ordinal numbers, firſt, ſecond, third, fourth, &c.

CARDINAL, an eccleſiaſtical prince in the Romiſh church, being one who has a voice in the conclave at the election of a pope. Some ſay the cardinals were ſo called from the Latin *incardinatio*, which ſignifies the adoption in any church made of a prieſt of a foreign church, driven thence by misfortune; and add, that the uſe of the word commenced at Rome and Ravenna; the revenues of the churches of which cities being very great, they became the common refuge of the unhappy prieſts of all other churches.

The cardinals compoſe the pope's council or ſenate: in the Vatican is a conſtitution of pope John, which regulates the rights and titles of the *cardinals*; and

4. which

Cardinal. which declares, that as the pope repreſents Moſes, ſo the cardinals repreſent the ſeventy elders, who, under the pontifical authority, decide private and particular differences.

Cardinals, in their firſt inſtitution, were only the principal prieſts, or incumbents of the pariſhes of Rome. In the primitive church, the chief prieſt of a pariſh, who immediately followed the biſhop, was called *preſbyter cardinalis*, to diſtinguiſh him from the other petty prieſts, who had no church nor preferment; the term was firſt applied to them in the year 150; others ſay, under pope Silveſter, in the year 300. Theſe cardinal prieſts were alone allowed to baptize, and adminiſter the euchariſt. When the cardinal prieſts became biſhops, their cardinalate became vacant; they being then ſuppoſed to be raiſed to a higher dignity.—Under pope Gregory, cardinal prieſts, and cardinal deacons, were only ſuch prieſts or deacons as had a church or chapel under their particular care: and this was the original uſe of the word. Leo IV. in the council of Rome, held in 853, calls them *preſbyteros ſui cardinis*; and their churches, *parœchias cardinales*.

The cardinals continued on this footing till the eleventh century: but as the grandeur and ſtate of his holineſs became then exceedingly augmented, he would have his council of cardinals make a better figure than the ancient prieſts had done. It is true, they ſtill preſerved their ancient title; but the thing expreſſed by it was no more. It was a good while, however, before they had the precedence over biſhops, or got the election of the pope into their hands: but when they were once poſſeſſed of thoſe privileges, they ſoon had the red hat and purple; and growing ſtill in authority, they became at length ſuperior to the biſhops, by the ſole quality of being cardinals.

Du-Cange obſerves, that originally there were three kinds of churches: the firſt or genuine churches were properly called *pariſhes*; the ſecond, *deaconries*, which were chapels joined to hoſpitals, and ſerved by deacons; the third were ſimple *oratories*, where private maſſes were ſaid, and were diſcharged by local and reſident chaplains. He adds, that, to diſtinguiſh the principal or pariſh churches from the chapels and oratories, the name *cardinales* was given to them. Accordingly, pariſh churches gave titles to cardinal prieſts; and ſome chapels alſo, at length, gave the title of *cardinal deacons*.

Others obſerve, that the term *cardinal* was given not only to prieſts, but alſo to biſhops and deacons who were attached to certain churches, to diſtinguiſh them from thoſe who only ſerved them *en paſſant*, and by commiſſion. Titular churches, or benefices, were a kind of pariſhes, i. e. churches aſſigned each to a cardinal prieſt; with ſome ſtated diſtrict depending on it, and a font for adminiſtering of baptiſm, in caſes where the biſhop himſelf could not adminiſter it. Theſe cardinals were ſubordinate to the biſhops; and accordingly, in councils, particularly that held at Rome in 868, ſubſcribed after them.

It was not, however, only at Rome, that prieſts bore this name; for we find there were cardinal prieſts in France: thus, the curate of the pariſh of St John de Vignes is called in old charters the *cardinal prieſt* of that pariſh.

The title of *cardinal* is alſo given to ſome biſhops, Cardinal. *quatenus* biſhops; e. g. to thoſe of Meotz and Milan: the archbiſhop of Bourges is alſo, in ancient writings, called *cardinal*; and the church of Bourges, a *cardinal church*. The abbot of Vendome calls himſelf *cardinalis natus*.

The cardinals are divided into three claſſes or orders; containing ſix biſhops, fifty prieſts, and fourteen deacons; making in all ſeventy: which conſtitute what they call the *ſacred college*. The cardinal biſhops, who are, as it were, the pope's vicars, bear the titles of the biſhoprieks aſſigned to them; the reſt take ſuch titles as are given them: the number of cardinal biſhops has been fixed; but that of cardinal prieſts and deacons, and conſequently the ſacred college itſelf, is always fluctuating. Till the year 1125, the college only conſiſted of fifty-two or fifty-three: the council of Conſtance reduced them to twenty-four; but Sixtus IV. without any regard to that reſtriction, raiſed them again to fifty-three, and Leo to ſixty-five. Thus, as the number of cardinal prieſts was anciently fixed to twenty-eight, new titles were to be eſtabliſhed, in proportion as new cardinals were created. As for the cardinal deacons, they were originally no more than ſeven for the fourteen quarters of Rome; but they were afterwards increaſed to nineteen, and after that were again diminiſhed.

According to Onuphrius, it was pope Pius IV. who firſt enacted, in 1562, that the pope ſhould be choſen only by the ſenate of cardinals; whereas, till that time, the election was by all the clergy of Rome. Some ſay, the election of the pope reſted in the cardinals, excluſive of the clergy, in the time of Alexander III. in 1160. Others go higher ſtill, and ſay, that Nicholas II. having been elected at Sienna, in 1058, by the cardinals alone, occaſioned the right of election to be taken from the clergy and people of Rome; only leaving them that of confirming him by their conſent; which was at length, however, taken from them. See his decree for this purpoſe, iſſued in the Roman council of 1059, in Hardouin's Acta Conciliorum, tom. vi. pt. i. p. 1165. Whence it appears, that the cardinals who had the right of ſuffrage in the election of his ſucceſſors, were divided by this pontiff into *cardinal biſhops* and *cardinal clerks*: meaning by the former the ſeven biſhops who belonged to the city and territory of Rome; and by the latter, the *cardinal preſbyters* or miniſters of the twenty-eight Roman pariſhes, or principal churches. To theſe were added, in proceſs of time, under Alexander III. and other pontiffs, new members, in order to appeaſe the tumults occaſioned by the edict of Nicholas II.

At the creation of a new cardinal, the pope performs the ceremony of opening and ſhutting his mouth; which is done in a private conſiſtory. The ſhutting his mouth implies the depriving him of the liberty of giving his opinion in congregations; and the opening his mouth, which is performed 15 days after, ſignifies the taking off this reſtraint. However, if the pope happens to die during the time a cardinal's mouth is ſhut, he can neither give his voice in the election of a new pope, nor be himſelf advanced to that dignity.

The dreſs of a cardinal is a red ſoutanne, a rocket, a ſhort purple mantle, and a red hat.

The

Cardinal ‖ Careening.

The cardinals began to wear the red hat at the council of Lyons, in 1243. The decree of pope Urban VIII. whereby it is appointed, that the cardinals be addreſſed under the title of *eminence*, is of the year 1630; till then, they were called *illuſtriſſimi*.

When cardinals are ſent to the courts of Princes, it is in quality of legates *a latere*; and when they are appointed governors of towns, their government is called by the name of *legation*.

Cardinal has alſo been applied to ſecular officers. Thus, the prime miniſters in the court of the emperor Theodoſius, are called *cardinales*. Caſſiodorus, lib. vii. formul. 31. makes mention of the cardinal prince of the city of Rome; and in the liſt of officers of the duke of Bretagne, in 1447, we meet with one Raoul de Thorel, cardinal of Quillart, chancellor, and ſervant of the viſcount de Rohan: which ſhows it to have been an inferior quality.

CARDIOID, in the higher geometry, an algebraical curve, ſo called from its reſemblance to an heart.

CARDIOSPERMUM, in botany: A genus of the trigynia order, belonging to the octandria claſs of plants; and in the natural method ranking under the 39th order, *Tribilatæ*. The calyx is tetraphyllous, the petals four, the nectarium tetraphyllous and unequal; the capſules three, grown together, and inflated. There are two ſpecies, both natives of the Eaſt and Weſt Indies; but have no great beauty, or any other remarkable property.

CARDIUM, or Cockle, in zoology, a genus of inſects belonging to the order of vermes teſtaceæ. The ſhell conſiſts of two equal valves, and the ſides are equal. There are 21 ſpecies of this genus. Common on all ſandy coaſts, lodged a little beneath the ſand; their place marked by a depreſſed ſpot. They are wholeſome and delicious food.

CARDONA, a handſome town of Spain, in Catalonia, with a ſtrong caſtle, and the title of a duchy. Near it is an inexhauſtible mountain of ſalt of ſeveral colours, as red, white, carnation, and green: but when waſhed, it becomes white. There are alſo vineyards which produce excellent wine, and very lofty pine-trees. It is ſeated on an eminence, near the river Cardenero. E. Long. 1. 26. N. Lat. 41. 42.

CARDUUS, in botany: A genus of the polygamia æqualis order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ*. The calyx is ovate, imbricated with prickly ſcales, and the receptacle hairy. Of this genus there are 26 ſpecies, ten of which are natives of Britain, and being troubleſome weeds require no deſcription. Some few of the exotic kinds are propagated in gardens for the ſake of variety; but even theſe have neither beauty nor any other property to recommend them.

Carduus Benedictus. See Cnicus.

CAREENING, in the ſea-language, the bringing a ſhip to lie down on one ſide, in order to trim and caulk the other ſide.

A ſhip is ſaid to be brought to the careen, when, the moſt of her lading being taken out; ſhe is hulled down on one ſide, by a ſmall veſſel, as low as neceſſary; and there kept by the weight of the ballaſt, ordnance, &c. as well as by ropes, leſt her maſts ſhould be ſtrained too much; in order that her ſides and bottom may be trimmed, ſeams caulked, or any thing that is faulty under water mended. Hence, when a ſhip lies on one ſide when ſhe fails, ſhe is ſaid to fail on the careen.

Career ‖ Carew.

CAREER, in the manege, a place incloſed with a barrier, wherein they run the ring.

The word is alſo uſed for the race or courſe of the horſe itſelf, provided it do not exceed 200 paces.

In the ancient circus, the career was the ſpace the bigæ, or quadrigæ, were to run at full ſpeed, to gain the prize. See Circus.

Career, in falconry, is a flight or tour of the bird, about 120 yards. If ſhe mount more, it is called a *double career*; if leſs, a *ſemi-career*.

CARELIA, the eaſtern province of Finland; divided into Swediſh Carelia, and Muſcovite Carelia. The capital of the latter is Povenza, and of the former Weiburg.

CARELSCROON, a ſea-port town of Sweden, in Blekingia, or Bleking, on the Baltic Sea, with a very good harbour defended by two forts. It was built in 1679; and is very populous, with arſenals for the marine: the houſe of the director-general of the admiralty is in this town, and here the Swedes lay up their royal navy. E. Long. 15. 5. N. Lat. 56. 15.

CARENTAN, a town of France in Lower Normandy, and in the Contentin, with an ancient caſtle. W. Long. 1. 14. N. Lat. 49 20.

CARET, among grammarians, a character marked thus ʌ, ſignifying that ſomething is added on the margin, or interlined, which ought to come in where the caret ſtands.

CAREW (George), born in Devonſhire in 1557, an eminent commander in Ireland, was made preſident of Munſter by queen Elizabeth; when, joining his forces with the earl of Thomond, he reduced the Iriſh inſurgents, and brought the earl of Deſmond to his trial. King James made him governor of Guernſey, and created him a baron. As he was a valiant commander, he was no leſs a polite ſcholar; and wrote *Pacata Hibernia*, a hiſtory of the late wars in Ireland, printed after his death, in 1633. He made ſeveral collections for a hiſtory of Henry V. which are digeſted into Speed's Hiſtory of Great Britain. Beſides theſe, he collected materials of Iriſh hiſtory in four large MSS. volumes, now in the Bodleian library, Oxford.

Carew (Thomas), deſcended from the family of Carew in Gloucesterſhire, was gentleman of the privy chamber to Charles I. who always eſteemed him one of the moſt celebrated wits of his court. He was much reſpected by the poets of his time, particularly by Ben Johnſon and Sir William Davenant; and left behind him ſeveral poems, and a maſque called *Cœlum Britannicum*, performed at Whitehall on Shrove Tueſday night, 1633, by the king, and ſeveral of his nobles with their ſons. Carew was aſſiſted in the contrivance by Inigo Jones, and the muſic was ſet by Mr Henry Lawes of the king's chapel. He died in the prime of life, about the year 1639.

Carew (Richard), author of the "Survey of Cornwall," was the eldeſt ſon of Thomas Carew of Eaſt Anthony, and was born in 1555. When very young, he became a gentleman commoner of Chriſt-church college, Oxford; and at 14 years of age had the honour of diſputing, extempore, with the afterwards famous

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Carew. mons Sir Philip Sydney, in the preſence of the earls of Leiceſter, Warwick, and other nobility. After ſpending three years at the univerſity, he removed to the Middle Temple, where he reſided the ſame length of time, and then travelled into foreign parts. Not long after his return to England, he married, in 1577, Juliana Arundel, of Trerice. In 1581, Mr Carew was made juſtice of the peace, and in 1586 was appointed high-ſheriff of the county of Cornwall; about which time he was likewiſe queen's deputy for the militia. In 1589, he was elected a member of the college of Antiquaries, a diſtinction to which he was intitled by his literary abilities and purſuits. What particularly engaged his attention was his native county, his "Survey" of which was publiſhed, in 4to, at London, in 1602. It hath been twice reprinted, firſt in 1723, and next in 1769. Of this work Cambden hath ſpoken in high terms, and acknowledges his obligations to the author. In the preſent improved ſtate of topographical knowledge, and ſince Dr Borlaſe's excellent publications relative to the county of Cornwall, the value of Carew's "Survey" muſt have been greatly diminiſhed. Mr Gough remarks, that the hiſtory and monuments of this county were faintly touched by Carew; but it is added, that he was a perſon extremely capable of deſcribing them, if the infancy of thoſe ſtudies at that time had afforded light and materials. Another work of our author was a tranſlation from the Italian, intituled, "The Examination of Men's Wits. In which, by diſcovering the variety of natures, is ſhowed for what profeſſion each one is apt, and how far he ſhall profit therein." This was publiſhed at London in 1594, and afterwards in 1604; and tho' Richard Carew's name is prefixed to it, hath been principally aſcribed by ſome perſons to his father. According to Wood, Carew wrote alſo, "The true and ready Way to learn the Latin Tongue," in anſwer to a query, whether the ordinary method of teaching the Latin by the rules of grammar be the beſt mode of inſtructing youths in that language? This tract is involved in Mr Hartlib's book upon the ſame ſubject, and with the ſame title. It is certain that Carew was a gentleman of conſiderable abilities and literature, and that he was held in great eſtimation by ſome of the moſt eminent ſcholars of his time. He was particularly intimate with Sir Henry Spelman, who extols him for his ingenuity, virtue, and learning.

Carew (George), brother to the ſubject of the laſt article, was educated in the univerſity of Oxford, after which he ſtudied the law in the inns of court, and then travelled to foreign countries for farther improvement. On his return to his native country, he was called to the bar, and after ſome time was appointed ſecretary to Sir Chriſtopher Hatton lord chancellor of England. This was by the eſpecial recommendation of queen Elizabeth herſelf, who gave him a prothonotaryſhip in the chancery, and conferred upon him the honour of knighthood. In 1597, Sir George Carew, who was then a maſter in chancery, was ſent ambaſſador to the king of Poland. In the next reign, he was one of the commiſſioners for treating with the Scotch concerning an union between the two kingdoms; after which he was appointed ambaſſador to the court of France, where he continued from the latter end of the year 1605 till 1609. During his reſidence in that country, he formed an intimacy with Thuanus, to whom he communicated an account of the tranſactions in Poland whilſt he was employed there, which was of great ſervice to that admirable author in drawing up the 121ſt book of his hiſtory. After Sir George Carew's return from France, he was advanced to the important poſt of maſter of the court of Wards, which honourable ſituation he did not long live to enjoy; for it appears from a letter written by Thuanus to Cambden in the ſpring of 1613, that he was then lately deceaſed. Sir George Carew married Thomaſine, daughter of Sir Francis Godolphin, great grandfather of the lord treaſurer Godolphin, and had by her two ſons and three daughters. When Sir George Carew returned, in 1609, from his French embaſſy, he drew up, and addreſſed to James I. "A Relation of the State of France, with the characters of Henry IV. and the principal Perſons of that Court." The characters are drawn from perſonal knowledge and cloſe obſervation, and might be of ſervice to a general hiſtorian of that period. The compoſition is perſpicuous and manly, and entirely free from the pedantry which prevailed in the reign of James I. but this is the leſs ſurpriſing, as Sir George Carew's taſte had been formed in a better æra, that of queen Elizabeth. The valuable tract we are ſpeaking of lay for a long time in MS. till happily falling into the hands of the earl of Hardwicke, it was communicated by him to Dr Birch, who publiſhed it, in 1749, at the end of his "Hiſtorical View of the Negociations between the Courts of England, France, and Bruſſels, from 1592 to 1617." That intelligent and induſtrious writer juſtly obſerves, that it is a model upon which ambaſſadors may form and digeſt their notions and repreſentations; and the late celebrated poet Mr Gray hath ſpoken of it as an excellent performance. Carew, Carey.

CAREY (Harry), a man diſtinguiſhed by both poetry and muſic, but perhaps more ſo by a certain facetiouſneſs, which made him agreeable to every body. He publiſhed in 1720 a little collection of poems; and in 1731, ſix cantatas, written and compoſed by himſelf. He alſo compoſed ſundry ſongs for modern comedies, particularly thoſe in the "Provoked Huſband:" he wrote a farce called "The Contrivances," in which were ſeveral little ſongs to very pretty airs of his own compoſition: he alſo made two or three little dramas for Goodman's-fields theatre, which were very favourably received. In 1729, he publiſhed by ſubſcription his poems much enlarged: with the addition of one intituled "Namby Pamby," in which Ambroſe Philips is ridiculed. Carey's talent, ſays his hiſtorian, lay in humour and unmalevolent ſatire: to ridicule the rant and bombaſt of modern tragedies he wrote one, to which he gave the ſtrange title of "Chrononhotonthologos," acted in 1734. He alſo wrote a farce called "The Honeſt Yorkſhireman." Carey was a thorough Engliſhman, and had an unſurmountable averſion to the Italian opera and the ſingers in it: he wrote a burleſque opera on the ſubject of the "Dragon of Wantley;" and afterwards a ſequel to it, intituled, "The Dragoneſs;" both which were eſteemed a true burleſque upon the Italian opera. His qualities being of the entertaining kind, he was led in-

Cargadors of Caribbee Islands.

to more expences than his finances could bear, and thus was frequently in distress. His friends however were always ready to assist him by their little subscriptions to his works: and encouraged by these, he republished, in 1740, all the songs he had ever composed, in a collection, intituled, "The Musical Century, in 100 English Ballads, &c." and, in 1743, his dramatic works, in a small volume, 4to. With all his mirth and good-humour, he seems to have been at times deeply affected with the malevolence of some of his own profession, who, for reasons that no one can guess at, were his enemies: and this, with the pressure of his circumstances, is supposed to have occasioned his untimely end; for, about 1744, in a fit of desperation, he laid violent hands on himself, and, at his house in Warner-street, Cold-bath Fields, put a period to a life, which, says Sir John Hawkins, had been led without reproach. It is to be noted, and it is somewhat singular in such a character, that in all his songs and poems on wine, love, and such kind of subjects, he seems to have manifested an inviolable regard for decency and good manners.

CARGADORS, a name which the Dutch give to those brokers whose business is to find freight for ships outward bound, and to give notice to the merchants, who have commodities to send by sea, of the ships that are ready to sail, and of the places for which they are bound.

CARGAPOL, or KARGAPOL, the capital of a territory of the same name, in the province of Dwina, in Muscovy: E. Long. 36°. N. Lat. 63°.

CARGO denotes all the merchandises and effects which are laden on board a ship.

Super-Cargo, a person employed by merchants to go a voyage, oversee the cargo, and dispose of it to the best advantage.

CARIA (anc. geog.), a country of the Hither Asia; whose limits are extended by some, while they are contracted by others. Mela, Pliny, extend the maritime Caria from Jasus and Halicarnassus, to Calynda, and the borders of Lycia. The inland Caria Ptolemy extends to the Meander and beyond. *Car*, *Cariates*, *Cariatis*, *Carissa*, and *Caris*, and *Caira*, are the gentilitious names; *Carius* and *Caricus* the epithets. *In Care periculum*, was a proverbial saying on a thing exposed to danger, but of no great value. The *Cares* being the Swiss of those days, were hired and placed in the front of the battle, (Cicero.) *Cum Care Carissa*, denoted the behaviour of clowns. The Cares came originally from the islands to the continent, being formerly subject to Minos, and called *Leleges*: this the Cretans affirm, and the Cares deny, making themselves aborigines. They are of a common original with the Mysi and Lydi, having a common temple, of a very ancient standing, at Melassa, a town of Caria, called *Jovis Carii Delubrum*, (Herodotus.) Homer calls the Carians, barbarians in language.

CARIATI, a town of Italy, in the kingdom of Naples, and province of Hither Calabria, with a bishop's see, and the title of a principality. It is two miles from the gulf of Taranto, and 37 north-east of Cosenza. E. Long. 17. 19. N. Lat. 30. 38.

CARIBBEE ISLANDS, a cluster of islands situated in the Atlantic ocean between 59 and 63 degrees of west longitude, and between 11 and 18 degrees of north latitude. They lie in the form of a bow or semicircle, stretching almost from the coast of Florida north, to near the river Oroonoque. Those that lie nearest the east have been called the *Windward Islands*, the others the *Leeward*, on account of the winds blowing generally from the eastern point in those quarters. Abbé Raynal conjectures them to be the tops of very high mountains formerly belonging to the continent, which have been changed into islands by some revolution that has laid the flat country under water. The direction of the Caribbee islands, beginning from Tobago, is nearly north and N. N. W. This direction is continued forming a line somewhat curved towards the north-west, and ending at Antigua. In this place the line becomes at once curved; and extending itself in a straight direction to the west and north-west, meets in its course with Porto-Rico, St Domingo, and Cuba, known by the name of the *Leeward Islands*, which are separated from each other by channels of various breadths. Some of these are six, others 15 or 20 leagues broad; but in all of them the soundings are from 100 to 120 or 150 fathoms. Between Grenada and St Vincent's there is also a small archipelago of 30 leagues, in which the soundings are not above ten fathom. The mountains in the Caribbee islands run in the same direction as the islands themselves. The direction is so regular, that if we were to consider the tops of these mountains only, independent of their bases, they might be looked upon as a chain of hills belonging to the continent, of which Martinico would be the most north-westerly promontory. The springs of water which flow from the mountains in the Windward Islands, run all in the western parts of these islands. The whole eastern coast is without any running water. No springs come down there from the mountains: and indeed they would have there been useless; for after having run over a very short tract of land, and with great rapidity, they would have fallen into the sea. In Porto Rico, St Domingo, and Cuba, there are a few rivers that discharge themselves on the northern side, and whose sources rise in the mountains running from east to west, that is, thro' the whole length of these islands. From the other side of the mountains facing the south, where the sea, flowing with great impetuosity, leaves behind it marks of its soundations, several rivers flow down, the mouths of which are capable of receiving the largest ships. The soil of the Caribbees consists mostly of a layer of clay or gravel of different thickness; under which is a bed of stone or rock. The nature of some of those soils is better adapted to vegetables than others. In those places where the clay is drier and more friable, and mixes with the leaves and remains of plants, a layer of earth is formed of greater depth than where the clay is moister. The sand or gravel has different properties according to its peculiar nature; wherever it is less hard, less compact, and less porous, small pieces separate themselves from it, which, though dry, preserve a certain degree of coolness useful to vegetation. This soil is called in America a *pumice-stone* soil. Wherever the clay and gravel do not go through such modifications, the soil becomes barren, as soon as the layer formed by the decomposition of the original plants is destroyed.—By a treaty concluded in January 1660, between

Caribbee Islands.

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Certhia. Hawk-billed.
Certhia. Cardinal.
Carabus.

Caribbee. between the French and Engliſh, the Caribs were confined to the iſlands of St Vincent's and Dominica, where all the ſcattered body of this people were united, and at that time did not exceed in number 6000 men. See St Vincent's and Dominica.

As the Caribbee iſlands are all between the tropics, their inhabitants are expoſed, allowing for the varieties reſulting from difference of ſituation and ſoil, to a perpetual heat, which generally increaſes from the riſing of the ſun till an hour after noon, and then declines in proportion as the ſun declines. The variations of the temperature of the air ſeem to depend rather on the wind than on the changes of the ſeaſons. In thoſe places where the wind does not blow, the air is exceſſively hot, and none but the eaſterly winds contribute to temper and refreſh it: thoſe that blow from the ſouth and weſt afford little relief; but they are much leſs frequent and leſs regular than that which blows from the eaſt. The branches of the trees expoſed to the influence of the latter are forced round towards the weſt: but their roots are ſtronger, and more extended under the ground, towards the eaſt than towards the weſt; and hence they are eaſily thrown down by ſtrong weſt winds or hurricanes from that quarter. The eaſterly wind is ſcarce felt in the Caribbee iſlands before 9 or 10 o'clock in the morning, increaſes in proportion as the ſun riſes above the horizon, and decreaſes as it declines. Towards the evening it ceaſes entirely to blow on the coaſts, but not on the open ſea. It has alſo been obſerved, that it blows with more force, and more regularity, in the dog-days than at any other time of the year.

The rain alſo contributes to the temperature of the Caribbee iſlands, though not equally in them all. In thoſe places where the eaſterly wind meets with nothing to oppoſe its progreſs, it diſpels the clouds as they begin to riſe, and cauſes them to break either in the woods or upon the mountains. But whenever the ſtorms are too violent, or the blowing of the eaſterly wind is interrupted by the changeable and temporary effect of the ſoutherly and weſterly ones, it then begins to rain. In the other Caribbee iſlands, where this wind does not generally blow, the rains are ſo frequent and plentiful, eſpecially in the winter ſeaſon, which laſts from the middle of July to the middle of October, that, according to the moſt accurate obſervations, as much rain falls in one week as in our climates in a year. Inſtead of thoſe mild refreſhing ſhowers which fall in the European climates, the rains of the Caribbee iſlands are torrents, the ſound of which might be miſtaken for hail, were not that almoſt totally unknown under ſo burning a ſky. Theſe ſhowers indeed refreſh the air; but they occaſion a dampneſs, the effects of which are not leſs diſagreeable than fatal. The dead muſt be interred within a few hours after they have expired. Meat will not keep ſweet above 24 hours. The fruits decay, whether they are gathered ripe or before their maturity. The bread muſt be made up into biſcuits, to prevent its growing mouldy. Common wines turn ſour, and iron turns ruſty, in a day's time. The ſeeds can only be preſerved by conſtant attention and care, till the proper ſeaſon returns for ſowing them. When the Caribbee iſlands were firſt diſcovered, the corn that was conveyed there for the ſupport of the Europeans, was ſo ſoon damaged, that it became neceſſary to ſend it out in the ears. This neceſſary precaution ſo much enhanced the price of it, that few were able to purchaſe it. Flour was then ſubſtituted in lieu of corn; which lowered indeed the expences of tranſport, but had this inconvenience, that it was ſooner damaged. It was imagined by a merchant, that if the flour were entirely ſeparated from the bran, it would have the double advantage of being cheaper and keeping longer. He cauſed it therefore to be ſifted, and put the fineſt flour into ſtrong caſks, and beat it cloſe together with iron hammers, till it became ſo cloſe a body that the air could ſcarcely penetrate it. This method was found to anſwer the purpoſe; and if, by it, the flour cannot be preſerved as long as in our dry and temperate climates, it may be kept for ſix months, a year, or longer, according to the degree of care taken in the preparation. Caribbee || Carica.

However troubleſome theſe effects of the rain may be, it is attended with ſome others ſtill more formidable; namely, frequent and dreadful earthquakes. Theſe happening generally during the time or towards the end of the rainy ſeaſon, and when the tides are higheſt, ſome ingenious naturaliſts have ſuppoſed that there might be a connection between them. The waters of the ſky and of the ſea undermine, dig up, and ravage the earth in ſeveral different ways. Among the various ſhocks to which the Caribbee iſlands are expoſed from the fury of the boiſterous ocean, there is one diſtinguiſhed by the name of *raz de maree*, or *whirlpool*. It conſtantly happens once, twice, or thrice, from July to October, and always on the weſtern coaſts, becauſe it takes place after the time of the weſterly or ſoutherly winds, or while they blow. The waves, which at a diſtance ſeem to advance gently within 400 or 500 yards, ſuddenly ſwell againſt the ſhore, as if acted upon in an oblique direction by ſome ſuperior force, and break with the greateſt impetuoſity. The ſhips which are then upon the coaſt, or in the roads beyond it, unable either to keep their anchors or to put out to ſea, are daſhed to pieces againſt the land, and all on board moſt commonly periſh. The hurricane is another terrible phenomenon in theſe iſlands, by which incredible damage is occaſioned; but happily it occurs not often.

The produce of the Caribbee iſlands is exceedingly valuable to the Europeans, conſiſting of ſugar, rum, molaſſes, indigo, &c. a particular account of which is given under the names of the reſpective iſlands as they occur in the order of the alphabet.

CARIBBIANA, or Caribiana, the north eaſt coaſt of Terra Firma, in South America, otherwiſe called *New Andaluſia*.

CARICA, the papaw; A genus of the decandria order, belonging to the dioecia claſs of plants; and in the natural method ranking under the 38th order, *Tricocca*. The calyx of the male almoſt none; the corolla is quinquefid and funnel-ſhaped; the filaments in the tube of the corolla, a longer and ſhorter one alternately. The calyx of the female quinquedentated; the corolla is pentapetalous, with five ſtigmata; the fruit an unilocular and polyſpermous berry.

Species. 1. The papaya riſes with a thick, ſoft, herbaceous ſtem, to the height of 18 or 20 feet, naked till within two or three feet of the top. The leaves come out on every ſide, upon very long footſtalks.

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Carica. Thoſe which are ſituated undermoſt are almoſt horizontal, but thoſe on the top are erect: theſe leaves in full grown plants are very large, and divided into many lobes deeply ſinuated. The ſtem of the plant, and alſo the footſtalks of the leaves, are hollow. The flowers of the male plant are produced from between the leaves on the upper part of the plant. They have footſtalks near two feet long; at the end of which the flowers ſtand in looſe cluſters, each having a ſeparate ſhort footſtalk: theſe are of a pure white, and have an agreeable odour. The flowers of the female papaya alſo come out from between the leaves towards the upper part of the plant, upon very ſhort footſtalks, ſitting cloſe to the ſtem: they are large, and bell-ſhaped, compoſed of ſix petals, and are commonly yellow; when theſe fall away, the germen ſwells to a large fleſhy fruit, of the ſize of a ſmall melon. Theſe fruits are of different forms: ſome angular, and compreſſed at both ends; others oval, or globular; and ſome pyramidal. The fruit, and all the other parts of the tree abound with a milky acrid juice, which is applied for killing of ring-worms. When the roundiſh fruit are nearly ripe, the inhabitants of India boil and eat them with their meat as we do turnips. They have ſomewhat the flavour of a pompion. Previous to boiling they ſoak them for ſome time in ſalt and water, to extract the corroſive juice; unleſs the meat they are to be boiled with ſhould be very ſalt and old, and then this juice being in them will make it as tender as a chicken. But they moſtly pickle the long fruit, and thus they make no bad ſuccedaneum for mango. The buds of the female flowers are gathered, and made into a ſweet-meat; and the inhabitants are ſuch good managers of the produce of this tree, that they boil the ſhells of the ripe fruit into a repaſt, and the inſides are eaten with ſugar in the manner of melons.—The ſtem being hollow, has given birth to a proverb in the Weſt-India iſlands; where, in ſpeaking of a diſſembling perſon, they ſay he is as hollow as a *Popo*.

2. The proſopoſa, differs from the other in having a branching ſtalk, the lobes of the leaves entire, the flower of a roſe colour, and the fruit ſhaped like a pear, and of a ſweeter flavour than the papaya.

Culture, &c. Theſe plants being natives of hot countries, cannot be preſerved in Britain unleſs conſtantly kept in a warm ſtove, which ſhould be of a proper height to contain them. They are eaſily propagated by ſeeds, which are annually brought in plenty from the Weſt Indies, though the ſeeds of the European plants ripen well. The ſeeds ſhould be ſown in a hot-bed early in the ſpring: when the plants are near two inches high, they ſhould be removed into ſeparate ſmall pots, and each plunged into a hot-bed of tanners bark, carefully ſhading them from the ſun till they have taken root; after which, they are to be treated in the ſame manner as other tender exoties. When they are removed into other pots, care muſt be taken as much as poſſible to preſerve the ball of earth about them, becauſe wherever their roots are laid bare they ſeldom ſurvive. When they are grown to a large ſize, they make a noble appearance with their ſtrong upright ſtems, garniſhed on every ſide near the top with large ſhining leaves, ſpreading out near three feet all round the ſtem: the flowers of the male ſort coming out in cluſters on every ſide, and the fruit of the female growing round the ſtalks between the leaves, are ſo different from any thing of European production, as well to intitle theſe plants to a place in the gardens of the curious. The fruit of the firſt ſpecies is by the inhabitants of the Caribbee iſlands eaten with pepper and ſugar as melons, but is much inferior to a melon in its native country; but thoſe which have ripened in Britain were deteſtable: the only uſe to which Mr Miller ſays he has known them put was, when they were about half grown, to ſoak them in ſalt water to get out the acrid juice, and then pickle them for onangos, to which they are a good ſubſtitute. Carinum || Carina.

CARICATURA, in painting, denotes the concealment of real beauties, and the exaggeration of blemiſhes, but ſtill ſo as to preſerve a reſemblance of the object. The word is Italian; formed of *carica*, a load, burden, or the like.

CARICOUS, an epithet given to ſuch tumors as reſemble the figure of a fig. They are frequently found in the piles.

CARIES, the corruption or mortification of a bone. See Medicine and Surgery, *Index*.

CARIGNAN, a fortified town of Piedmont, ſituated on the river Po, about ſeven miles ſouth of Turin. E. Long. 7. 25. N. Lat. 44. 30. It was taken in 1544 by the French; who demoliſhed the fortifications, but ſpared the caſtle. It was alſo taken, and retaken, in 1691.

CARILLONS, a ſpecies of chimes frequent in the low countries, particularly at Ghent and Antwerp, and played on a number of bells in a belfrey, forming a complete ſeries or ſcale of tones and ſemitones, like thoſe on the harpſichord and organ. There are petals communicating with the great bells, upon which the *carilloneur* with his feet plays the baſe to ſprightly airs, performed with the two hands upon the upper ſpecies of keys. Theſe keys are projecting ſticks, wide enough aſunder to be ſtruck with violence and velocity by either of the hands edgeways, without the danger of hitting the neighbouring key. The player is provided with a thick leather covering for the little finger of each hand, to guard againſt the violence of the ſtroke. Theſe carillons are heard through a large town.

CARINA, a Latin term, properly ſignifying the *keel* of a ſhip; or that long piece of timber running along the bottom of the ſhip from head to ſtern, upon which the whole ſtructure is built or framed.

Carina is alſo frequently uſed for the whole capacity or bulk of a ſhip; containing the hull or all the ſpace below the deck. Hence the word is alſo ſometimes uſed by a figure for the whole ſhip.

Carina is alſo uſed in the ancient architecture. The Romans gave the name *carina* to all buildings in form of a ſhip, as we ſtill give the name *nave* to the middle or principal vault of our Gothic churches; becauſe it has that figure.

Carina, among anatomiſts, is uſed to denote the *ſpina dorſi*; as likewiſe for the fibrous rudiments or embryo of a chick appearing in an incubated egg. The carina conſiſts of the entire *vertebræ*, as they appear after ten or twelve days incubation. It is thus called, becauſe crooked in form of the keel of a ſhip—Botaniſts

Carinola || Cariſto.

niſts alſo, for the like reaſon, uſe the word *carina*, to expreſs the lower petalum of a papilionaceous flower.

CARINÆ were alſo weepers or women hired among the ancient Romans to weep at funerals: they were thus called from *Caria*, the country whence moſt of them came.

CARINOLA, an epiſcopal town of Italy, in the kingdom of Naples, and Terra di Lavoro. E. Long. 15. 5. N. Lat. 41. 15.

CARINTHIA, a duchy of Germany, in the circle of Auſtria, bounded by the archbiſhoprie of Saltzburg on the north, and by Carniola and the Venetian territories on the ſouth, on the weſt by Tyrol, and on the eaſt by Stiria. A part of this country was anciently called *Carnia*, and the inhabitants *Carni*; but the former afterwards obtained the name of *Carinthia*, and the latter *Carantani* or *Carinthi*. The air of this country is cold, and the ſoil in general mountainous and barren; but there are ſome fruitful dales and valleys in it, which produce wheat and other grain. The lakes, brooks, and rivers, which are very numerous, abound with fiſh; and the mountains yield lead and iron, and in many places are covered with woods. The river Drave, which runs acroſs the country, is the moſt conſiderable in Carinthia. The inhabitants are partly deſcendants of the ancient Germans, and partly of the Sclavonians or Wends. The ſtates are conſtituted as in Auſtria, and their aſſemblies are held at Clagenfurt. The archbiſhop of Saltzburg and the biſhop of Bamberg have conſiderable territories in this country. Chriſtianity was planted here in the 7th century. The only profeſſion tolerated at preſent is the Roman Catholic. The biſhops are thoſe of Gurk and Lavant, who are ſubject to the archbiſhop of Saltaburgh. This duchy was formerly a part of Bavaria. In the year 1282, the emperor Rodolph I. gave it to Maynad count of Tyrol, on condition that when his male iſſue failed, it ſhould revert to the houſe of Auſtria; which happened in 1331. Carinthia has its particular governor or *land-captain*, as he is called; and contributes annually towards the expence of the military eſtabliſhment 637,695 florins. Only one regiment of foot is uſually quartered in it.

CARIPI, a kind of cavalry in the Turkiſh army. The caripi, to the number of about 1000, are not ſlaves, nor bred up in the ſeraglio, like the reſt; but are generally Moors or renegado Chriſtians, who having followed adventures, being poor, and having their fortune to ſeek by their dexterity and courage, have arrived at the rank of horſe-guards to the Grand Signior.

CARISSA, in botany: A genus of the monogyna order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 30th order, *Contortæ*. It has two many-ſeeded berries.

CARITAS.—The *poculum caritatis*, or grace-cup, was an extraordinary allowance of wine or other liquors, wherein the religious at feſtivals drank in commemoration of their founder and benefactors.

CARISBROOK-CASTLE, a caſtle ſituated in the middle of the iſle of Wight, where king Charles I. was impriſoned. W. Long. 1. 30. N. Lat. 50. 40.

CARISTO, an epiſcopal city of Greece, in the eaſtern part of the iſland of Negropont, near Cape Loro. E. Long. 24. 15. N. Lat. 38. 6.

CARKE, denotes the 30th part of a SARPLAR of wool.

Carke || Carline.

CARLE. See CHUAL.

CARLETON (Sir Dudley), was born in Oxfordſhire, 1573, and bred in Chriſt-church college. He went as ſecretary to Sir Ralph Winwood into the Low Countries, when king James reſigned the cautionary towns to the States; and was afterwards employed for 20 years as ambaſſador to Venice, Savoy, and the United Provinces. King Charles created him viſcount Dorcheſter, and appointed him one of his principal ſecretaries of ſtate; in which office he died in 1631. He was eſteemed a good ſtateſman, though an honeſt man; and publiſhed ſeveral political works.

CARLINA, the CARLINA THISTLE: A genus of the polygamia æqualis order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ*. The calyx is radiated with long coloured marginal ſcales. There are ſeven ſpecies, only one of which is a native of Britain, *viz.* the vulgaris. The others are natives of the ſouth of France or Italy; and are very eaſily propagated in this country by ſeeds, which muſt be ſown on a bed of freſh undunged earth, where they are to remain, as they do not bear tranſplanting. When the plants appear above ground, they ſhould be carefully weeded, and afterwards thinned, leaving them about ten inches or a foot aſunder. The ſecond year moſt of them will flower: but, unleſs the ſeaſon proves dry, they rarely produce good ſeeds in this country, and ſome of the plants decay ſoon after they have flowered, ſo that it is pretty difficult to maintain them here. The roots are uſed in medicine, and for that purpoſe are imported from thoſe countries where the plants grow naturally. As we receive them, they are about an inch thick, externally of a ruſty brown colour, corroded as it were on the ſurface, and perforated with numerous ſmall holes, appearing on the ſurface as if worm-eaten. They have a ſtrong ſmell, and a ſubacrid, bitteriſh, weakly, aromatic taſte. They are looked upon to be warm alexipharmics and diaphoretics. Frederic Hoffman the Elder relates that he has obſerved a decoction of them in broth to occaſion vomiting. They have been for ſome time greatly eſteemed among foreign phyſicians; but never were much in uſe in this country. The preſent practice has entirely rejected them, nor are they often to be met with in the ſhops.

CARLINE, or CAROLINA THISTLE. See CAALINA. It is ſaid to have been diſcovered by an angel to Charlemagne, to cure his army of the plague; whence its denomination.

CAALINE, or *Caroline*, a ſilver coin current in the Neapolitan dominions, and worth about 4d. of our money.

CAALINES, or CAALINGS, in a ſhip, two pieces of timber lying fore and aft, along from one beam to another, directly over the keel; ſerving as a foundation for the whole body of the ſhip. On theſe the ledges reſt, whereon the planks of the deck and other matters of carpentry are made faſt. The carlines have their ends let into the beams called *culver-tail-wiſe*.

CARLINE-Knees, are timbers going athwart the ſhip,

Carlingford Carliſle.

from the ſides to the hatch-way, ſerving to ſuſtain the deck on both ſides.

CARLINGFORD, a port-town of Ireland, ſeated on Carlingford bay, in the county of Louht, and province of Leinſter, 22 miles north of Drogheda. W. Long. 6. 24. N. Lat. 24. 5.

CARLISLE, the capital city of the county of Cumberland, ſeated on the ſouth of the river Eden, and between the Petterel on the eaſt, and the Caude on the weſt. It is ſurrounded by a ſtrong ſtone-wall, and has a pretty large caſtle in the weſtern part of it, as alſo a citadel in the eaſtern part, built by Henry VIII. It flouriſhed in the time of the Romans, as appears from the antiquities that are to be met with here, and the Roman coins that have been dug up. At the departure of the Romans this city was ruined by the Scots and Picts; and was not rebuilt till the year 680, by Egfrid, who encompaſſed it with a wall, and repaired the church. In the 8th and 9th centuries, the whole country was again ruined, and the city laid deſolate by the incurſions of the Norwegians and Danes. In this condition it remained till the time of William Rufus; who repaired the walls and the caſtle, and cauſed the houſes to be rebuilt. It was fortified by Henry I. as a barrier againſt Scotland; he alſo placed a garriſon in it, and made it an epiſcopal ſee. It was twice taken by the Scots, and afterwards burnt accidentally in the reign of Richard II. The cathedral, the ſuburbs, and 1500 houſes, were deſtroyed at that time. It is at preſent in a good condition; and has three gates, the Engliſh on the ſouth, the Scotch on the north, and Irish on the weſt. It has two pariſhes, and as many churches, St Cuthbert and St Mary's, the laſt of which is the cathedral, and is ſeparated from the town by a wall of its own. The eaſtern part, which is the neweſt, is a curious piece of workmanſhip. The choir with the aiſles is 71 feet broad; and has a ſtately eaſt window 48 feet high and 30 broad, adorned with curious pillars. The roof is elegantly vaulted with wood; and is embelliſhed with the arms of England and France quartered; as alſo with Piercy's, Lucy's, Warren's, Mowbray's, and many others. In the choir are the monuments of three biſhops who are buried there. The ſee was erected in 1133 by king Henry I. and made ſuffragan to the archbiſhop of York. The cathedral church here had been founded a ſhort time before by Walter, deputy in theſe parts for king William Rufus, and by him dedicated to the Virgin Mary. He likewiſe built a monaſtery, and filled it with canons regular of St Auguſtine. This foundation continued till the diſſolution of monaſteries, when its lands were added to the ſee, and the maintenance of a dean, &c. placed here in their room. The church was almoſt ruined by the uſurper Cromwell and his ſoldiers; and has never ſince recovered its former beauty, although repaired after the reſtoration. This dioceſe contains the greateſt part of the counties of Cumberland and Weſtmoreland, in which are only 93 pariſhes; but theſe (as all the northern are) exceeding large; and of them 18 are impropriations. Here is one archdeacon, viz. of Carliſle. The ſee is valued in the king's books at L. 530 : 4 : 11 $\frac{1}{2}$, but is computed to be worth annually L. 2800. The clergy's tenth amounts only to L. 161 : 1 : 7 $\frac{1}{2}$. To this cathedral belong a biſhop, a dean, a chancellor, an archdeacon, four prebendaries, eight minor canons, &c. and other inferior officers and ſervants.

Carlock Carlſcrona

The Picts wall, which was built acroſs the country from Newcaſtle, terminates near this place. Carliſle was a fortified place, and ſtill has its governor and lieutenant-governor, but no garriſon. It was taken by the rebels, Nov. 15. 1745; and was retaken by the duke of Cumberland on the 10th of December following, and deprived of its gates. It is governed by a mayor, twelve aldermen, two bailiffs, &c. and has a conſiderable market on Saturdays. The manufactures of Carliſle are chiefly of printed linens, for which near 3000 *l.* per annum is paid in duties. It is alſo noted for a great manufacture of whips, in which a great number of children are employed.—Salmons appear in the Eden in numbers, ſo early as the months of December and January; and the London and even Newcaſtle markets are ſupplied with early fiſh from this river: but it is remarkable, that they do not viſit the Eſk in any quantity till April; notwithſtanding the mouths of the two rivers are at a ſmall diſtance from each other.—Carliſle ſends two members to parliament, and gives title of Earl to a branch of the Howard family.

CARLOCK, in commerce, a ſort of iſinglaſs, made with the ſturgeon's bladder, imported from Archangel. The chief uſe of it is for clarifying wine, but it is alſo uſed by the dyers. The beſt carlock comes from Aſtracan, where a great quantity of ſturgeon is caught.

CARLOSTAD, or CARLSTAN, a town of Sweden in Wermeland, ſeated on the lake Warner, in E. Long. 14. 4. N. Lat. 59. 16.

CARLOSTAN, or *Carlſtadt*, a town of Hungary, capital of Croatia, and the uſual reſidence of the governors of the province. It is ſeated on the river Kulph, in E. Long. 16. 5. N. Lat. 45. 34.

CARLOWITZ, a ſmall town of Hungary, in Sclavonia, remarkable for a peace concluded here between the Turks and Chriſtians in 1669. It is ſeated on the weſt ſide of the Danube, in E. Long. 19. 5. N. Lat. 45. 25.

CARLSCRONA, or CARLSCROON, a ſea-port town in the Baltic, belonging to Sweden. It derives its origin and name from Charles XI. who firſt laid the foundations of a new town in 1680, and removed the fleet from Stockholm to this place, on account of its advantageous ſituation in the centre of the Swediſh ſeas, and the ſuperior ſecurity of its harbour. The greateſt part of Carlſcrona ſtands upon a ſmall rocky iſland, which riſes gently in a bay of the Baltic; the ſuburbs extend over another ſmall rock, and along the mole cloſe to the baſon where the fleet is moored. The way into the town from the main land is carried over a dyke to an iſland, and from thence along two long wooden bridges joined by a barren rock. The town is ſpacious, and contains about 18,000 inhabitants. It is adorned with one or two handſome churches, and a few tolerable houſes of brick; but the generality of buildings are of wood. The ſuburbs are fortified towards the land by a ſtone-wall. The entrance into the harbour, which by nature is extremely difficult from a number of ſhoals and rocky iſlands, is ſtill further ſecured from the attack of an enemy's fleet by two ſtrong forts built on two iſlands, under the batteries of which all veſſels muſt paſs.

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Carlſtadt ‖ Carmel.

Formerly veſſels in this port, when careened and repaired, were laid upon their ſides in the open harbour, until a dock, according to a plan given by Polheim, was hollowed in the ſolid rock: it was begun in 1714, and finiſhed in 1724; but as it was too ſmall for the admiſſion of men of war, it has lately been enlarged, and is now capable of receiving a ſhip of the firſt rate. But new docks have been begun upon a ſtupendous plan worthy of the ancient Romans. According to the original ſcheme, it was intended to conſtruct 30 docks, for building and laying up the largeſt ſhips, at the extremity of the harbour. A large baſon, capable of admitting two men of war, is deſigned to communicate, by ſluices, with two ſmaller baſons, from each of which are to extend, like the radii of a circle, five rows of covered docks: each row is to be ſeparated by walls of ſtone; and each dock to be provided with ſluice-gates, ſo as to be filled or emptied by means of pumps. Cloſe to the docks, magazines for naval ſtores are to be conſtructed, and the whole to be incloſed with a ſtone-wall. The project was begun in 1757; but was much neglected until the acceſſion of his preſent majeſty, who warmly patronized the arduous undertaking. At the commencement of the works, L. 25,000 were annually expended upon them; which ſum has been leſſened to about L. 6000 per annum, and the number of docks reduced to 20. The firſt dock was finiſhed in 1779, and it was computed that the whole number would be executed in 20 years.

CARLSTADT, a town of Germany, in the circle of Franconia, and biſhopric of Wurtſburg, ſeated on the river Maine, in E. Long. 9. 51. N. Lat. 50. 0.

CARLTON, a town in Norfolk held by this tenure, that they ſhall preſent 1000 herrings baked in 14 pies to the king, wherever he ſhall be when they firſt come in ſeaſon.

CARMAGNIOLA, a fortified town of Italy, in Piedmont, with a good caſtle. It was taken by the French in 1691, and retaken by prince Eugene the ſame year. It is ſeated in a country abounding in corn, flax, and ſilk, near the river Po, in E. Long. 7. 32. N. Lat 44. 43.

CARMANIA (anc. geog.), a country of Aſia, to the eaſt of Perſia, having Parthia to the north, Gedroſia to the eaſt, to the ſouth the Perſian Gulf or Sea in part, and in part the Indian, called the *Carmanian Sea*, diſtinguiſhed into *Carmania Deſerta*, and *Carmania Propria*; the former lying to the ſouth of Parthia; and to the ſouth of that, the *Propria*, quite to the ſea. Its name is from the Syriac, *Carma*, ſignifying a "vine," for which that country was famous, yielding cluſters three feet long. Now KERMAN, or CARIMANIA, a province of modern Perſia.

CARMEL, a high mountain of Paleſtine, ſtanding on the ſkirts of the ſea, and forming the moſt remarkable head-land on all that coaſt. It extends eaſtward from the ſea as far as the plain of Jezreel, and from the city of that name quite to Cæſarea on the ſouth. It ſeems to have had the name of *Carmel* from its great fertility; this word, according to the Hebrew import, ſignifying the *vine of God*, and is uſed in ſcripture to denote any fruitful ſpot, or any place planted with fruit trees. This mountain, we are aſſured, was very fertile. Mr Sandys acquaints us, that, when well cultivated, it abounds with olives, vines, and variety of fruits and herbs both medicinal and aromatic. Others, however, repreſent it as rather dry and barren; which perhaps may have happened from the neglect of agriculture ſo common in all parts of the Turkiſh empire, eſpecially where they are expoſed to the incurſions of the Arabs. Carmel is the name of the mountain, and of a city built on it; as well as of a heathen deity worſhipped in it, but without either temple or ſtatue: though anciently there muſt have been a temple, as we are told that this mountain was a favourite retreat of Pythagoras, who ſpent a good deal of time in the temple, without any perſon with him. But what hath rendered mount Carmel moſt celebrated and revered both by Jews and Chriſtians, is its having been the reſidence of the prophet Elijah, who is ſuppoſed to have lived there in a cave (which is there ſhown), before he was taken up into heaven. Carmelites.

CARMELITES, an order of religious, making one of the four tribes of mendicants or begging friars; and taking its name from mount Carmel, formerly inhabited by Elias, Eliſha, and the children of the prophets; from whom this order pretends to deſcend in an uninterrupted ſucceſſion. The manner in which they make out their antiquity has ſomething in it too ridiculous to be rehearſed. Some among them pretend they are deſcendants of Jeſus Chriſt; others go further, and make Pythagoras a Carmelite, and the ancient druids regular branches of their order. Phocas, a Greek monk, ſpeaks the moſt reaſonably. He ſays, that in his time, 1185, Elias's cave was ſtill extant on the mountain; near which were the remains of a building which intimated that there had been anciently a monaſtery; that, ſome years before, an old monk, a prieſt of Calabria, by revelation, as he pretended, from the prophet Elias, fixed there, and aſſembled ten brothers.—In 1209, Albert, patriarch of Jeruſalem, gave the ſolitaries a rigid rule, which Papebroch has ſince printed. In 1217, or, according to others, 1226, pope Honorius III. approved and confirmed it. This rule contained 16 articles; one of which confined them to their cells, and enjoined them to continue day and night in prayer; another prohibited the brethren having any property; another enjoined faſting from the feaſt of the holy croſs till Eaſter, except on Sundays; abſtinence at all times from fleſh was enjoined by another article; one obliged them to manual labour; another impoſed a ſtrict ſilence on them from veſpers till the tierce the next day.

The peace concluded by the emperor Frederic II. with the Saracens, in the year 1229, ſo diſadvantageous to Chriſtendom, and ſo beneficial to the infidels, occaſioned the Carmelites to quit the Holy Land, under Alan the fifth general of the order. He firſt ſent ſome of the religious to Cyprus, who landed there in the year 1238, and founded a monaſtery in the foreſt of Fortania. Some Sicilians, at the ſame time, leaving mount Carmel, returned to their own country, where they founded a monaſtery in the ſuburbs of Meſſina. Some Engliſh departed out of Syria, in the year 1240, to found others in England. Others of Provence, in the year 1244, founded a monaſtery in the deſart of Aiguelates, a league from Marſeilles: and thus, the number of their monaſteries increaſing, they held their European general chapter in the year 1245, at their monaſtery

Carmelites ‖ Carminatives.

oaſtery of Aylesford in England.—This order is ſo much increaſed, that it has, at preſent, 38 provinces, beſides the congregation of Mantua, in which are 54 monaſteries, under a vicar-general; and the congregations of Barefooted Carmelites in Italy and Spain, which have their peculiar generals.

After the eſtabliſhment of the Carmelites in Europe, their rule was in ſome reſpects altered; the firſt time, by pope Innocent IV. who added to the firſt article a precept of chaſtity, and relaxed the 11th which enjoins abſtinence at all times from fleſh, permitting them, when they travelled, to eat boiled fleſh: this pope likewiſe gave them leave to eat in a common refectory, and to keep aſſes or mules for their uſe. Their rule was again mitigated by the popes Eugenius IV. and Pius II. Hence the order is divided into two branches, viz. *the Carmelites of the ancient obſervance*, called the *moderate* or *mitigated*; and thoſe *of the ſtrict obſervance*, who are the *barefooted Carmelites*; a reform ſet on foot in 1540, by S. Thereſa, a nun of the convent of Avila, in Caſtile: theſe laſt are divided into two congregations, that of Spain and that of Italy.

The habit of the Carmelites was at firſt white, and the cloak laced at the bottom with ſeveral liſts. But pope Honorius IV. commanded them to change it for that of the Minims. Their ſcapulary is a ſmall woollen habit of a brown colour, thrown over their ſhoulders. They wear no linen ſhirts; but inſtead of them linſey-wolſey, which they change twice a-week in the ſummer, and once a-week in the winter.

If a monk of this order lies with a woman, he is prohibited ſaying maſs for three or four years, is declared infamous, and obliged to diſcipline himſelf publicly once a-week. If he is again guilty of the ſame fault, his penance is doubled; and if a third time, he is expelled the order.

CARMEN, an ancient term among the Latins, uſed in a general ſenſe to ſignify a verſe; but more particularly to ſignify a ſpell, charm, form of expiation or execration, couched in a few words placed in a myſtic order, on which its efficacy depended. Pezron derives the word *carmen* from the Celtic *carm*, the ſhout of joy, or the verſes which the ancient bards ſung to encourage the ſoldiers before the combat.—*Carmen* was anciently a denomination given alſo to precepts, laws, prayers, imprecations, and all ſolemn formulæ couched in a few words placed in a certain order, though written in proſe. In which ſenſe it was that the elder Cato wrote a *Carmen de moribus*, which was not in verſe, but in proſe.

CARMENTALIA, a feaſt among the ancient Romans, celebrated annually upon the 11th of January, in honour of Carmenta, or Carmentis, a propheteſs of Arcadia, mother of Evander, with whom ſhe came into Italy 60 years before the Trojan war. The ſolemnity was alſo repeated on the 15th of January, which is marked in the old calendar by *Carmentalia relata*. This feaſt was eſtabliſhed on occaſion of a great fecundity among the Roman dames, after a general reconciliation with their huſbands, with whom they had been at variance, in regard of the uſe of coaches being prohibited them by an edict of the ſenate. This feaſt was celebrated by the women: he who offered the ſacrifices was called *ſacerdos carmentalis*.

CARMINATIVES, medicines uſed in colics, or other flatulent diſorders, to diſpel the wind.

The word comes from the Latin *carminare*, to card or teaze wool, and figuratively to attenuate and diſcuſs wind or vapours, and promote their diſcharge by perſpiration. Though Dr Quincy makes it more myſterious: He ſays it comes from the word *carmen*, taking it in the ſenſe of an invocation or charm; and makes it to have been a general name for all medicines which operated like charms, *i. e.* in an extraordinary manner. Hence, as the moſt violent pains were frequently thoſe ariſing from pent-up wind, which immediately ceaſe upon diſperſion; the term *carminative* became in a peculiar ſenſe applied to medicines which gave relief in windy caſes, as if they cured by inchantment: but this interpretation ſeems a little too far ſtrained.

Carmine ‖ Carneades.

CARMINE, a powder of a very beautiful red colour, bordering upon purple; and uſed by painters in miniature, though rarely on account of its great price. The manner of preparing it is kept a ſecret by the colour-makers; neither do any of thoſe receipts which have for a long time been publiſhed concerning the preparation of this and other colours at all anſwer the purpoſe. See *Colour-Making*.

CARMONA, a town of Italy in Frioli, and in the county of Goritz, ſeated on a mountain near the river Iodri. It belongs to the houſe of Auſtria. E. Long. 5. 37. N. Lat. 46. 15.

CARMONA, an ancient town of Spain in Andaluſia. The gate towards Seville is one of the moſt extraordinary pieces of antiquity in all Spain. It is ſeated in a fertile country, 15 miles eaſt of Seville. W. Long. 5. 37. N. Lat. 37. 24.

CARNATION, in botany. See DIANTHUS.

Carnation-Colour, among painters, is underſtood of all the parts of a picture, in general, which repreſent fleſh, or which are naked and without drapery. Titian and Corregio in Italy, and Rubens and Vandyke in Flanders, excelled in carnations.—In colouring for fleſh, there is ſo great a variety, that it is hard to lay down any general rules for inſtruction therein; neither are there any regarded by thoſe who have acquired a ſkill this way: the various colouring for carnations may be eaſily produced, by taking more or leſs red, blue, yellow, or biſtre, whether for the firſt colouring, or for the finiſhing: the colour for women ſhould be bluiſh, for children a little red, both freſh and gay; and for the men it ſhould incline to yellow, eſpecially if they are old.

CARNATION, among dyers. To dye a carnation, or red roſe colour, it is directed to take liquor of wheat bran a ſufficient quantity, alum three pounds, tartar two ounces; boil them and enter twenty yards of broad cloth; after it has boiled three hours, cool and waſh it: take freſh clear bran liquor a ſufficient quantity, madder five pounds; boil and fodden according to art.—The Bow dyers know that the ſolution of jupiter, or delved tin, being put in a kettle to the alum and tartar, in another proceſs, makes the cloth, &c. attract the colour into it, ſo that none of the cochineal is left, but the whole is abſorbed by the cloth.

CARNEADES, a celebrated Greek philoſopher, was a native of Cyrene in Africa, and founder of the third academy. He was ſo fond of ſtudy, that he not only avoided all entertainments, but forgot even to eat at his own table; his maid-ſervant Meliſſa was obliged to put the victuals into his hand. He was an antagoniſt of the Stoics; and applied himſelf with great eagerneſs

Carneades
Carneia.

gerneſs to refute the works of Chryſippus, one of the moſt celebrated philoſophers of their ſect. The power of his eloqueoce was dreaded eveo by a Romao feoate. The Atheoians being coodemned by the Romans to pay a fine of 500 talents for plundering the city of Oropus, ſent ambaſſadors to Rome, who got the fioe mitigated to 100 taleots. Carneades the academic, Diogenes the Stoic, and Critolaus the Peripatetic, were charged with this embaſſy. Before they had an audience of the ſenate, they harangued to great multitudes io different parts of the city. Carneades's eloquence was diſtioguiſhed from that of the others by its ſtrength and rapidity. Cato the elder made a motion in the ſenate, that theſe ambaſſadors ſhould be immediately ſent back, becauſe it was very diffieult to diſcern the truth thro' the arguments of Carneades. The Athenian ambaſſadors (ſaid many of the ſenators) were ſent rather to force us to comply with their demands, than to ſolicit them by perſuaſion; meaning, that it was impoſſible to reſiſt the power of that eloquence with which Carneades addreſſed himſelf to them. According to Plutarch, the youth at Rome were ſo charmed by the fine orations of this philoſopher, that they forſook their exerciſes and other diverſioos, and were carried with a kind of madneſs to philoſophy; the bumour of philoſophiſing ſpreading like eothuſiaſm. This grieved Cato, who was particularly afraid of the ſubtilty of wit and ſtrength of argument with which Carneades maiotained either ſide of a queſtioo. Carneades haraogued in favour of juſtice one day, and the next day againſt it, to the admiration of all who heard him, among whom were Galba and Cato, the greateſt orators of Rome. This was his element; he delighted io demoliſhing his own work; becauſe it ſerved in the end to confirm his graod principle, that there are only probabilities or reſemblances of truth in the miod of man; ſo that of two things directly oppoſite, either may be choſen indifferently. Quiotilian remarks, that though Carneades argued in favour of injuſtice, yet he himſelf acted accordiog to the ſtrict rules of juſtice. The followiog was a maxim of Carneades: "If a man privately knew that his enemy, or any other perſoo whoſe death might be of advantage to him, would come to ſit dowo oo graſs in which there lurked an aſp, he ought to give him notice of it, though it were in the power of oo perſon whatever to blame him for being ſilent." Carneades, according to ſome, lived to be 85 years old; others make him to be 90: his death is placed in the 4th year of the 162d Olympiad.

CARNEDDE, in Britiſh antiquity, denote heaps of ſtones ſuppoſed to be druidical remaios, and thrown together on occaſion of confirming and commemorating a covenant. Gen. xxxi. 46. They are very commoo in the iſle of Angleſey, and were alſo uſed as ſepulchral monumeots, in the manner of *tumuli*; for Mr Rowlaod found a curious urn in one of theſe carnedde. Whence it may be inferred, that the Britons had the cuſtom of throwing ſtones on the deceaſed. From this cuſtom is derived the Welch proverb, *Karn arddyben*, "ill betide thee."

CARNEIA, in antiquity, a feſtival in honour of Apollo, ſurnamed Carneus, held in moſt cities of Greece, but eſpecially at Sparta, where it was firſt inſtituted.

The reaſon of the name, as well as the occaſion of the inſtitution, is controverted. It laſted nine days, begioning on the 13th of the month Carneus. The ceremonies were an imitation of the method of liviog and diſcipline uſed in camps.

Carnel
Carniola.

CARNEL.—The building of ſhips firſt with their timber and beams, aod after bringiog on their plaoks, is called *carnel-work*, to diſtinguiſh it from cliuch-work.

Veſſels alſu which go with mizzen-ſails inſtead of main-ſails are by ſome called carnels.

CARNELIAN, in natural hiſtory, a precious ſtone, of which there are three kiods, diſtinguiſhed by three colours, a red, a yellow, aod a white. The red is very well known amoog us; is found in roundiſh or oval maſſes, much like our common pebbles; and is generally met with between ao inch and two or three inches in diameter: it is of a fine, compact, and cloſe texture; of a gloſſy ſurface; and, in the ſeveral ſpecimens, is of all the degrees of red, from the paleſt fleſh-colour to the deepeſt blood-red. It is generally free from ſpots, clouds, or variegatioos: but ſometimes it is veined very beautifully with an extremely pale red, or with white; the veins forming coocentric circles, or other leſs regular figures, about a nucleus, in the manner of thoſe of agates. The pieces of carnelian which are all of one colour, and perfectly free from veins, are thoſe which our jewellers generally make uſe of for ſeals, though the variegated ones are much more beautiful. The carnelian is tolerably hard, and capable of a very good poliſh: it is not at all affected by acid menſtruums: the fire diveſts it of a part of its colour, and leaves it of a pale red; aod a ſtroog aod loog continued heat will reduce it to a pale dirty gray.

The fioeſt carnelians are thoſe of the Eaſt Indies; but there are very beautiful ones found in the rivers of Sileſia and Bohemia; and we have ſome not deſpicable ones in England.

Though the aocients have recommended the carnelian as aſtringent, and attributed a oumber of faneiful virtues to it, we know of no other uſe of the ſtone than the cutting ſeals on it; to which purpoſe it is excellently adapted, as beiog not too hard for cutting, and yet hard enough oot to be liable to accidents, to take a good poliſh, and to ſeparate eaſily from the wax.

CARNERO, in geography, a name given to that part of the gulph of Venice which extends from the weſtero coaſt of Iſtria to the iſlaod of Groſſa and the coaſt of Morlachia.

Caanero is likewiſe the name of the cape to the weſt of the mouth of the bay of Gibraltar.

CARNIFEX, among the Romans, the common executioner. By reaſon of the odioufneſs of his office, the carnifex was expreſsly prohibited by the laws from having his dwelling-houſe within the city. In middle age writers carnifex alſo denotes a butcher.

Under the Anglo-Daniſh kiogs, the carnifex was an officer of great digoity; being ranked with the archbiſhop of York, earl Goodwin, and the lurd ſteward. Flor. Wigorn. ann. 1040. *Rex Hardecanutus Alfricum Ebor. Archiep. Goodwinum comitem, Edricum diſpenſatorem, Throndſuum* carnificem, *& alios magne dignitatis viros Londinum miſit.*

CARNIOLA, a duchy of Germany bounded on the ſouth by the Adriatic ſea, and that part of Iſtria poſſeſſed

Carniola, Carnival

poſſeſſed by the republic of Venice; on the north, by Carinthia and Stiria; on the eaſt, by Selavonia and Croatia; on the weſt, by Friuli, the county of Gorz or Goritz, and a part of the gulph of Venice; extending in length about 110 miles, and in breadth about 50. It had its ancient name *Carnia*, as well as the modern one *Carniola*, from its ancient inhabitants the *Carni*, a tribe of Scythians, otherwiſe called *Japides*, whence this and the adjacent countries were alſo called *Japidia*.

Carniola is full of mountains, ſome of which are cultivated and inhabited, ſome covered with wood, others naked and barren, and others continually buried in ſnow. The valleys are very fruitful. Here are likewiſe mines of iron, lead, and copper; but ſalt muſt be had from the ſovereign's magazines. There are ſeveral rivers, beſides many medicinal ſprings and inland lakes. The common people are very hardy, going barefooted in winter through the ſnow, with open breaſts, and ſleeping on a hard bench without bed or bolſter. Their food is alſo very coarſe and mean. In winter, when the ſnow lies deep on the ground, the mountaineers bind either ſmall baſkets, or long thin narrow boards, like the Laplanders, to their feet, on which, with the help of a ſtout ſtaff or pole, they deſcend with great velocity from the mountains. When the ſnow is frozen, they make uſe of a ſort of irons or ſkaits. In different parts of the country the inhabitants, eſpecially the common ſort, differ greatly in their dreſs, language, and manner of living. In Upper and Lower Carniola they wear long beards. The languages chiefly in uſe are the Sclavonian or Wendiſh, and German; the firſt by the commonalty, and the latter by people of faſhion. The duchy is divided into the Upper, Lower, Middle, and Inner, Carniola. The principal commodities exported hence are, iron, ſteel, lead, quickſilver, white and red wine, oil of olives, cattle, ſheep, cheeſe, linen, and a kind of woollen ſtuff called *mahalan*, Spaniſh leather, honey, walnuts, and timber; together with all manner of wood-work, as boxes, diſhes, &c.—Chriſtianity was firſt planted here in the eighth century.—Lutheraniſm made a conſiderable progreſs in it; but, excepting the Walachians or Uſkokes, who are of the Greek church, and ſtyle themſelves *Staraverzi*, i. e. old believers, all the inhabitants at preſent are Roman Catholics. Carniola was long a marquiſate or margravate; but in the year 1231 was erected into a duchy. As its proportion towards the maintenance of the army, it pays annually 363,171 florins; but only two regiments of foot are quartered in it.

CARNIVAL, or CARNAVAL, a time of rejoicing, a ſeaſon of mirth, obſerved with great ſolemnity by the Italians, particularly at Venice, holding from the twelfth day till Lent.

The word is formed from the Italian *Carnovalle*; which Mr Du Cange derives from *Carn-a-val*, by reaſon the fleſh then goes to pot, to make amends for the ſeaſon of abſtinence then enſuing. Accordingly, in the corrupt Latin, he obſerves, it was called *Carnelevamen*, and *Carniſprivium*; as the Spaniards ſtill denominate it *carnes tollendas*.

Feaſts, balls, operas, concerts of muſic, intrigues, marriages, &c. are chiefly held in carnival time. The carnival begins at Venice the ſecond holiday in Chriſtmas: Then it is they begin to wear maſks, and open their play-houſes and gaming houſes; the place of St Mark is filled with mountebanks, jack-puddings, pedlars, whores, and ſuch like mob, who flock thither from all parts. There have been no leſs than ſeven ſovereign princes and 30,000 foreigners here to partake of theſe diverſions.

Carnivorous animals, Carnoſity.

CARNIVOROUS, an epithet applied to thoſe animals which naturally ſeek and feed on fleſh.

It has been a diſpute among naturaliſts, whether man is naturally carnivorous. Thoſe who take the negative ſide of the queſtion, inſiſt chiefly on the ſtructure of our teeth, which are moſtly inciſores or molares; not ſuch as *carnivorous* animals are furniſhed with, and which are proper to tear fleſh in pieces: to which it may be added, that, even when we do feed on fleſh, it is not without a preparatory alteration by boiling, roaſting, &c. and even then that it is the hardeſt of digeſtion of all foods. To theſe arguments Dr Wallis ſubjoins another, which is that all quadrupeds which feed on herbs or plants have a long colon, with a cœcum at the upper end of it, or ſomewhat equivalent, which conveys the food by a long and large progreſs, from the ſtomach downwards, in order to its ſlower paſſage and longer ſtay in the inteſtines; but that, in *carnivorous* animals, ſuch cœcum is wanting, and inſtead thereof there is a more ſhort and ſlender gut, and a quicker paſſage through the inteſtines. Now, in man, the cœcum is very viſible: a ſtrong preſumption that nature, who is ſtill conſiſtent with herſelf, did not intend him for a *carnivorous* animal.—It is true, the cœcum is but ſmall in adults, and ſeems of little or no uſe; but in a fœtus it is much larger in proportion: And it is probable, our cuſtomary change of diet, as we grow up, may occaſion this ſhrinking. But to theſe arguments, Dr Tyſon replies, that if man had been by nature deſigned not to be *carnivorous*, there would doubtleſs have been found, ſomewhere on the globe, people who do not feed on fleſh; which is not the caſe. Neither are carnivorous animals always without a colon and cœcum; nor are all animals carnivorous which have thoſe parts: the opoſſum, for inſtance, hath both a colon and cœcum, and yet feeds on poultry and other fleſh; whereas the hedge-hog, which has neither colon nor cœcum, and ſo ought to be carnivorous, feeds only on vegetables. Add to this, that hogs, which have both, will feed upon fleſh when they can get it; and rats and mice, which have large cœcums, will feed on bacon as well as bread and cheeſe. Laſtly, the human race are furniſhed with teeth neceſſary for the preparation of all kinds of foods; from whence it would ſeem, that nature intended we ſhould live on all. And as the alimentary duct in the human body is fitted for digeſting all kinds of food, ought we not rather to conclude, that nature did not intend to deny us any?

It is no leſs diſputed whether mankind were *carnivorous* before the flood. St Jerom, Chryſoſtom, Theodoret, and other ancients, maintain, that all animal food was then forbidden; which opinion is alſo ſtrenuouſly ſupported among the moderns by Cocceilæus, and refuted by Heidegger, Danzius, Bochart, &c. See ANTEDILUVIANS.

CARNOSITY is uſed by ſome authors for a little fleſhy

Caro, Carolina.

fleſhy excreſcence, tubercle, or wen, formed in the urethra, the neck of the bladder, or yard, which ſtops the paſſage of the urine.—Carnoſities are very difficult of cure: they are not eaſily known but by introducing a probe into the paſſage, which there meets with reſiſtance. They uſually ariſe from ſome venereal malady ill managed.

CARO (Annibal), a celebrated Italian poet, was born at Civita Nuovo in 1507. He became ſecretary to the Duke of Parma, and afterwards to Cardinal Farneſe. He was alſo made a knight of Malta. He tranſlated Virgil's Æneid into his own language with ſuch propriety and elegance of expreſſion, that he was allowed by the beſt judges to have equalled the original. He alſo tranſlated Ariſtotle's rhetoric, two orations of Gregory Nazianzen, with a diſcourſe of Cyprian. He wrote a comedy; and a miſcellany of his poems was printed at Venice in 1584. He died at Rome in 1566.

CAROLINA, a province of North America, comprehending the moſt weſterly part of Florida, and lying between 29 and 36 degrees of N. Lat. It is bounded on the eaſt by the Atlantic, and on the weſt by the river Miſſiſipi, on the north by Virginia, on the ſouth by Georgia, and to the ſouth of Georgia by the Floridas.

This country is ſeated between the extremities of heat and cold, though the heat is more troubleſome in ſummer than the cold in winter; their winters being very ſhort, and the froſty mornings frequently ſucceeded by warm days. The air is generally ſerene and clear the greateſt part of the year; but in February and March the inhabitants have a cuſtom of burning the woods, which cauſes ſuch a ſmoke as to ſtrangers would ſeem to proceed from a fog or thickneſs in the air. The ſmoke of the tar-kilns likewiſe deceives ſtrangers, and gives them an ill opinion of the air of Carolina; to which alſo conduces a cuſtom of the Indians of ſetting fire to the woods in their huntings, for many miles round. The great rains are in winter, though they are not without heavy ſhowers at midſummer; add to theſe the conſtant dews that fall in the night, which refreſh the ground and ſupply the plants with moiſture. In North Carolina, the north-weſt winds in the winter occaſion very piercing weather; but they are not of long continuance. Weſterly winds bring very pleaſant weather; but the ſouth-erly are hot and unwholeſome, occaſioning fevers and other diſorders. But this muſt be underſtood of ſummer, for in winter they are very comfortable. The depth of winter is towards the latter end of February, and then the ice is not ſtrong enough to bear a man's weight. In Auguſt and September there are ſometimes great ſtorms and ſqualls of wind, which are ſo violent as to make lanes of 100 feet wide, more or leſs, thro' the woods, tearing up the trees by the roots. Theſe ſtorms generally happen once in about ſeven years; and are attended with dreadful thunder, lightning, and heavy rains. They commonly happen about the time of the hurricanes which rage ſo fatally among the iſlands between the tropics; and ſeem to be occaſioned by them, or to proceed from the ſame cauſe: but by the time they reach Carolina, their force is much abated; and the farther north they proceed, ſo much the more do they decreaſe in fury. The ſoil on the coaſt is ſandy: but farther up, the country is ſo fruitful that they have not yet been at the trouble to manure their land. The grains moſt cultivated are Indian corn and rice, though any ſort will thrive well enough; they have alſo pulſe of ſeveral ſorts, little known in England. All kinds of garden ſtuff uſual in England are cultivated here, and may be had in great plenty. They export large quantities yearly of rice, pitch, tar, turpentine, deer-ſkins, and timber for building; cypreſs, cedar, ſaſſafras, oak, walnut, and pine. Beſides theſe they alſo ſend out beef, pork, tallow, hides, furs, wheat, peas, potatoes, honey, bees-wax, myrtle-wax, tobacco, ſnake-root, cotton, ſeveral ſorts of gums and medicinal drugs. Indigo is alſo cultivated in this province, but of an inferior quality to that which comes from the Caribbee iſlands. It hath been attempted in vain to cultivate vines, and produce ſilk, in this country; for though the froſts here do not continue long without intervals of warmer weather, they are ſufficient to check the growth of the vine, as well as olives, dates, oranges, &c. The furs are bought of the Indians with vermilion, lead, gunpowder, coarſe cloth, iron, and ſpirituous liquors. As yet they have not a ſufficient number of handicraftſmen; which renders labour very dear, and a ſupply of clothes from Europe neceſſary. The aſpect of the country is very fine, being adorned with beautiful rivers and creeks, and the woods with lofty timber, which afford delightful and pleaſant ſeats for the planters, and render the fencing their lands very eaſy. And as they have plenty of fiſh, wild fowl, and veniſon, beſides other neceſſaries which this country produces naturally, they live eaſy and luxuriouſly. Carolina. *Un. Hiſt.* xxvi. 88.

Their rivers are large, and navigable a great many miles up the country. They riſe near the mountains, and abound with delicate fiſh, beſides water-fowl of different kinds. In ſome there are iſlands which yield good paſture, without the annoyance of wild beaſts. The chief mountains are the Cherokee or Allegany mountains, which are ſituated north and north-weſt, five or ſix hundred miles diſtant from the ſea. They are very high; and abound with trees, plants, ſtones, and minerals, of different kinds.

This country is divided into North and South Carolina, and Georgia; each of which, before the late revolution, was under a particular governor. The North is ſubdivided into four counties, Granville, Colliton, Berkley, and Craven; and South Carolina into two, Clarendon and Albemarle. This laſt is alſo divided into 14 pariſhes or townſhips, each of which has a brick or timber church. The former likewiſe has the ſame number of pariſhes. Charleſtown is the capital of the whole country.

Carolina was diſcovered by Sebaſtian Cabot, about the year 1500, in the reign of Henry VII. but the ſettling of it being neglected by the Engliſh, a colony of French Proteſtants, by the encouragement of Admiral Coligni, were tranſported thither; and named the place of their firſt ſettlement *Arx Carolina*, in honour of their prince, Charles IX. of France: but in a ſhort time that colony was deſtroyed by the Spaniards; and no other attempt was made by any European power to ſettle there till the year 1664, when 800 Engliſh landed at Cape-Fear in North Carolina, and took poſſeſſion of the country. In 1670 Cha. II.

Carolina. of Britain granted Carolina to the Lords Berkley, Clarendon, Albemarle, Craven, and Aſhley, Sir George Carteret, Sir William Berkley, and Sir John Colliton. The plan of government for this new colony was drawn up by the famous Mr Locke, who very wiſely propoſed an univerſal toleration in religious matters. The only reſtriction in this reſpect was, that every perſon claiming the protection of that ſettlement, ſhould, at the age of 17, regiſter himſelf in ſome particular communion. To civil liberty, however, our philoſopher was not ſo favourable; the code of Carolina gave to the eight proprietors who founded the colony, and to their heirs, not only all the rights of a monarch, but all the powers of a legiſlation. The court, which was compoſed of this ſovereign body, and called the *Palatine Court*, was inveſted with the right of nominating to all employments and dignities, and even of conferring nobility; but with new and unprecedented titles. They were, for inſtance, to create in each county two *caciques*, each of whom was to be poſſeſſed of 24,000 acres of land; and a *landgrave*, who was to have 80,000. The perſons on whom theſe honours ſhould be beſtowed were to compoſe the upper houſe, and their poſſeſſions were made unalienable. They had only the right of farming or letting out a third part of them at the moſt for three lives. The lower houſe was compoſed of the deputies from the ſeveral counties and towns. The number of this repreſentative body was to be increaſed as the colony grew more populous. No tenant was to pay more than about a ſhilling per acre, and even this rent was redeemable. All the inhabitants, however, both ſlaves and freemen, were under an obligation to take up arms upon the firſt order from the Palatine court.

It was not long before the defects of this conſtitution became apparent. The proprietary lords uſed every endeavour to eſtabliſh an arbitrary government; and, on the other hand, the coloniſts exerted themſelves with great zeal to avoid ſervitude. In conſequence of this ſtruggle, the whole province, diſtracted with tumults and diſſentions, became incapable of making any progreſs, though great things had been expected from its particular advantages of ſituation. Though a toleration in religious matters was a part of the original conſtitution, diſſentions aroſe likewiſe on that account. In 1705, Carteret, now Lord Granville, who, as the oldeſt of the proprietors, was ſole governor of the colony, formed a deſign of obliging all the non-conformiſts to embrace the ceremonies of the Church of England; and this act of violence, though diſavowed and rejected by the mother-country, inflamed the minds of the people. In 1720, while this animoſity was ſtill ſubſiſting, the province was attacked by ſeveral bands of ſavages, driven to deſpair by a continued courſe of the moſt atrocious violence and injuſtice. Theſe unfortunate wretches were all put to the ſword: but, in 1728, the lords proprietors having refuſed to contribute towards the expences of an expedition, of which they were to ſhare the immediate benefits, were deprived of their prerogative, except Lord Granville, who ſtill retained his eighth part. The reſt received a recompence of about 24,000l. The colony was taken under the immediate protection of the crown, and from that time began to flouriſh. The diviſion into North and South Carolina now took place, and the ſettlement of Georgia commenced in 1732. See Georgia. Caroline ‖ Carp.

CAROLINE, See Caaline.

Caroline-Books, the name of four books, compoſed by order of Charlemagne, to refute the ſecond council of Nice. Theſe books are couched in very harſh and ſevere terms, containing 120 heads of accuſation againſt the council of Nice, and condemning the worſhip of images.

CAROLOSTADIANS, or Carlostadians, an ancient ſect or branch of Lutherans, who denied the real preſence of Chriſt in the euchariſt.

They were thus denominated from their leader Andrew Caroloſtadius, who having originally been archdeacon of Wittemberg, was converted by Luther, and was the firſt of all the reformed clergy who took a wife; but diſagreeing afterwards with Luther, chiefly in the point of the ſacrament, founded a ſect apart. The Caroloſtadians are the ſame with what are otherwiſe denominated Sacramentarians, and agree in moſt things with the Zuinglians.

CAROLUS, an ancient Engliſh broad piece of gold ſtruck under Charles I. Its value has of late been at 23 ſhillings Sterling, though at the time it was coined it is ſaid to have been rated at 20 ſhillings.

Caolus, a ſmall copper coin, with a little ſilver mixed with it, ſtruck under Charles VIII. of France. The carolus was worth 12 deniers when it ceaſed to be current. Thoſe which are ſtill current in trade in Lorrain, or in ſome neighbouring provinces, go under the name of French ſols.

CAROTIDS, in anatomy, two arteries of the neck, which convey the blood from the aorta to the brain; one called the right, and the other the left, carotid.

CARP, in ichthyology, the Engliſh name of a ſpecies of cyprinus. See Cyprinus; alſo *Carp-Fishing*.

The carp is the moſt valuable of all kinds of fiſh for ſtocking of ponds. It is very quick in its growth, and brings forth the ſpawn three times a-year, ſo that the increaſe is very great. The female does not begin to breed till eight or nine years old; ſo that in breeding-ponds a ſupply muſt be kept of carp of that age. The beſt judges allow, that, in ſtocking a breeding-pond, four males ſhould be allowed to twelve females. The uſual growth of a carp is two or three inches in length in a year; but, in ponds which receive the fattening uſe common ſewers, they have been known to grow from five inches to 18 in one year. A feeding-pond of one acre extent will very well feed 300 carp of three years old, 300 of two years, and 400 of one year old. Carp delight greatly in ponds that have marley ſides; they love alſo clay-ponds well ſheltered from the winds, and grown with weeds and long graſs at the edges, which they feed on in the hot months. Carp and tench thrive very faſt in ponds and rivers near the ſea, where the water is a little brackiſh; but they are not ſo well taſted as thoſe which live in freſh water. Grains, blood, chicken-guts, and the like, may at times be thrown into carp-ponds, to help to fatten the fiſh. To make them grow large and fat, the growth of graſs under the water ſhould by all means poſſible be encouraged. For this purpoſe, as the water decreaſes in the ſummer, the ſides of the pond left naked and dry ſhould be well raked with an iron rake, to deſtroy

Carpates ‖ Carpentry.

ſtroy all the weeds, and cut up the ſurface of the earth: hay-ſeed ſhould then be ſown plentifully in theſe places; and more ground prepared in the ſame manner, as the water falls more and more away. By this means there will be a fine and plentiful growth of young graſs along the ſides of the pond to the water's edge; and when the rains fill up the pond again, this will be all buried under the water, and will make a feeding-place for the fiſh, where they will come early in the morning, and will fatten greatly upon what they find there.

CARPATES, or ALPES BASTARNICÆ, (anc. geog.) a range of mountains, running out between Poland, Hungary, and Tranſylvania. Now called the Carpathian Mountains.

CARPATHIUM (MARE, Horace, Ovid); the ſea that waſhes the iſland Carpathus.

CARPATHUS, an iſland on the coaſt of Aſia, two hundred ſtadia in compaſs, and an hundred in length. Its name is ſaid to be from its ſituation on the coaſt of Caria. It lies between Rhodes and Crete, in the ſea which, from this iſland, is called the Carpathian Sea, and has to the north the Ionian, to the ſouth the Egyptian, to the weſt the Cretan and African ſeas. It is two hundred furlongs in compaſs, and a hundred in length. It had anciently, according to Strabo, four cities; according to Scylax only three. Ptolemy mentions but one, which he calls Poſidium. This iſland is now called Scarpanto.

CARPÆA, a kind of dance anciently in uſe among the Athenians and Magneſians, performed by two perſons, the one acting a labourer, the other a robber. The labourer, laying by his arms, goes to ploughing and ſowing, ſtill looking warily about him as if afraid of being ſurpriſed: the robber at length appears, and the labourer, quitting his plough, betakes himſelf to his arms, and fights in defence of his oxen. The whole was performed to the ſound of flutes, and in cadence. Sometimes the robber was overcome and ſometimes the labourer; the victor's reward being the oxen and plough. The deſign of the exerciſe was to teach and accuſtom the peaſants to defend themſelves againſt the attacks of ruffians.

CARPENTER, a perſon who practiſes CARPENTRY. The word is formed from the French *charpentier*, which ſignifies the ſame, formed of *charpente*, which denotes timber; or rather from the Latin *carpentarius*, a maker of *carpenta*, or carriages.

CARPENTER of a Ship, an officer appointed to examine and keep in order the frame of a ſhip, together with her maſts, yards, boats, and all other wooden machinery. It is his duty in particular to keep the ſhip *tight*; for which purpoſe he ought frequently to review the decks and ſides, and to caulk them when it is neceſſary. In the time of battle, he is to examine up and down, with all poſſible attention, in the lower apartments of the ſhip, to ſtop any holes that may have been made by ſhot, with wooden plugs provided of ſeveral ſizes.

CARPENTRAS, an epiſcopal town of Provence in France, and capital of Venaiſſin. It is ſubject to the pope; and is ſeated on the river Auſon, at the foot of a mountain. E. Long. 5. 6. N. Lat. 44. 4.

CARPENTRY, the art of cutting, framing, and joining large pieces of wood, for the uſes of building. It is one of the arts ſubſervient to architecture, and is divided into houſe-carpentry and ſhip-carpentry: the firſt is employed in railing roofing, flooring of houſes, &c. and the ſecond in the building of ſhips *, barges, &c. The rules in carpentry are much the ſame with thoſe of JOINERY; the only difference is, that carpentry is uſed in the larger and coarſer work, and joinery in the ſmaller and curious.

Carpentum ‖ Carpi.

* See *Ship-building*.

CARPENTUM, in antiquity, a name common to divers ſorts of vehicles, anſwering to coaches as well as waggons, or even carts, among us. The carpentum was originally a kind of car or vehicle in which the Roman ladies were carried; though in after times it was alſo uſed in war. Some derive the word from *carro*; others from *Carmenta* the mother of Evander, by a converſion of the *m* into *p*.

CARPET, a ſort of covering of ſtuff, or other materials, wrought with the needle or on a loom, which is part of the furniture of a houſe, and commonly ſpread over tables, or laid upon the floor.

Perſian and Turkey carpets are thoſe moſt eſteemed; though at Paris there is a manufactory after the manner of Perſia, where they make them little inferior, not to ſay finer than the true Perſian carpets. They are velvety, and perfectly imitate the carpets which come from the Levant. There are alſo carpets of Germany, ſome of which are made of woollen ſtuffs, as ſerges, &c. and called ſquare carpets: others are made of wool alſo, but wrought with the needle, and pretty often embelliſhed with ſilk; and, laſtly, there are ſome made of dogs hair. We have likewiſe carpets made in Britain, which are uſed either as floor-carpets, or to cover chairs, &c. It is true, we are not arrived at the like perfection in this manufacture with our neighbours the French; but may not this be owing to the want of a like public encouragement?

CARPET-Knights, a denomination given to gown-men and others, of peaceable profeſſions, who, on account of their birth, office, or merits to the public, or the like, are, by the prince, raiſed to the dignity of knighthood.

They take the appellation *carpet*, becauſe they uſually receive their honours from the king's hands in the court, kneeling on a carpet. By which they are diſtinguiſhed from knights created in the camp, or field of battle, on account of their military proweſs. Carpet-knights poſſeſs a medium between thoſe called *truck*, or *dunghill-knights*, who only purchaſe or merit the honour by their wealth, and *knights-bachelors*, who are created for their ſervices in the war.

CARPI, a principality of Modena in Italy, lying about four leagues from that city. It formerly belonged to the houſe of Pio; the elder ſons of which bore the title of *Princes of St Gregory*. In the beginning of the 14th century *Manfroy* was the firſt prince of Carpi; but in the 16th, the emperor Cha. V. gave the principality to Alfonzo duke of Ferrara. This nobleman, in recompence, gave to Albert Pio, to whom the principality of Carpi belonged of right, the town of Saſſuolo and ſome other lands. Albert was, however, at laſt obliged to retire to Paris: where, being ſtripped of all his eſtates, he died in 1538, with the reputation of being one of the beſt and braveſt men of his age. The family of Pio is yet in being, and continues attached to the French court. Some of

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Carpi, Carpinus.

them have even been raiſed to the purple, and ſtill make a figure in Europe.

CARPI, a town of Italy in the duchy of Modena, and capital of the laſt mentioned principality. It has a ſtrong caſtle, and is ſituated in E. Long. 11. 12. N. Lat. 44. 45.

CARPI, a town of the Veroneſe in Italy, memorable for a victory gained by the Imperialiſts over the French in 1701. It is ſubject to the Venetians; and is ſituated on the river Adige, in E. Long. 11. 39. N. Lat. 45. 10.

CARPI (Ugo da), an Italian painter, of no very conſiderable talents in that art, but remarkable for being the inventor of that ſpecies of engraving on wood, diſtinguiſhed by the name of chiaro-ſcuro, in imitation of drawing. This is performed by uſing more blocks than one; and Ugo da Carpi uſually had three; the firſt for the outline and dark ſhadows, the ſecond for the lighter ſhadows, and the third for the half tint. In that manner he ſtruck off prints after ſeveral deſigns, and cartons of Raphael; particularly one of the Sybil, a Deſcent from the Croſs, and the Hiſtory of Simon the Sorcerer. He died in 1500. This art was brought to a ſtill higher degree of perfection by Balthaſar Peruzzi of Siena, and Parmigiano, who publiſhed ſeveral excellent deſigns in that manner.

CARPI (Girolamo da), hiſtory and portrait painter, was born at Ferrara in 1501, and became a diſciple of Garofalo. When he quitted that maſter, he devoted his whole time, thoughts, and attention, to ſtudy the works of Correggio, and to copy them with a moſt critical care and obſervation; in which labour he ſpent ſeveral years at Parma, Modena, and other cities of Italy, where the beſt works of that exquiſite painter were preſerved. He acquired ſuch an excellence in the imitation of Correggio's ſtyle, and copying his pictures, that many paintings finiſhed by him were taken for originals, and not only admired, but were eagerly purchaſed by the connoiſſeurs of that time. Nor is it improbable that ſeveral of the paintings of Girolamo da Carpi paſs at this day for the genuine work of Correggio himſelf. He died in 1556.

CARPINUS, the HORN-BEAM, in botany: A genus of the polyandria order, belonging to the monœcia claſs of plants; and in the natural method ranking under the 50th order, *Amentaceæ*. The calyx of the male is monophyllous and ciliated; there is no corolla, but 20 ſtamina The calyx of the female is monophyllous and ciliated; no corolla; two germens, with two ſtyles on each. The fruit is an egg-ſhaped nut. There are two ſpecies, *viz.*

1. The betulus, or common hornbeam; a deciduous tree, native of Europe and America. Its leaves are of a darkiſh green, and about the the ſize of thoſe of the beech, but more pointed and deeply ſerrated. Its branches are long, flexible, and crooked; yet in their general appearance very much reſemble thoſe of the beech: indeed there is ſo great a likeneſs between thoſe two trees, eſpecially in the ſhrubby and underwood ſtate, that it would be difficult to diſtinguiſh them at the firſt glance, were it not for that gloſſy varniſh with which the leaves of the beech are ſtrongly marked. In the days of EVELYN, when topiary work was the gardener's idol, the hornbeam might be conſidered as deſerving of thoſe endearing expreſſions which that enthuſiaſtic writer has been pleaſed to laviſh upon it: nevertheleſs, as an ornamental in modern gardening it ſtands low; and its preſent uſes are few. As an underwood it affords ſtakes and eddera, fuel and charcoal. Its timber ranks with that of the beech and the ſycamore; and the inner bark is ſaid to be much uſed in Scandinavia to dye yellow. The only ſuperior excellency of the hornbeam lies in its fitneſs for ſkreen fences for ſheltering gardens, nurſeries, and young plantations from the ſeverities of the winter ſeaſon. It may be trained to almoſt any height, and by keeping it trimmed on the ſides it becomes thick of branches, and conſequently thick of leaves; which being by their nature retained upon the plant after they wither, a hornbeam hedge occaſions a degree of ſhelter nearly equal to that given by a brick wall. Indeed, being leſs reflective than that expenſive ſkreen, it affords a more uniform temperature of air to the plants which ſtand near it. In this point of view, too, the hornbeam is uſeful to be planted promiſcuouſly, or in alternate rows, amongſt more tender plants in expoſed ſituations, in the ſame manner as the birch; to which it has more than one preference: namely, it is warmer in winter,—and Hanbury ſays, the hornbeam is peculiarly grateful to hares and rabbits; conſequently it may prevent their injuring its more valuable neighbours: yet, like Evelyn, he ſeems to be of opinion that it is diſaffected by deer. If this be really the caſe, the hornbeam may upon many occaſions be introduced into deer-parks with ſingular propriety.

Carpinus.

Of this ſpecies there are three varieties: The Eaſtern Hornbeam, Flowering Hornbeam, American Hornbeam. The eaſtern hornbeam arrives to the leaſt height of all the ſorts: about ten feet is the fartheſt of its growth, and it looks pretty enough with trees of the ſame growth. The leaves are by no means ſo large as the common ſort; and as the branches are always cloſer in proportion to the ſmallneſs of the leaves, where a low hedge is wanted of the deciduous kind, this would not be an improper tree for the purpoſe, either to be kept ſheered, or ſuffered to grow in its natural ſtate. The bark of this ſort is more ſpotted than that of the common. The flowering hornbeam is the moſt free ſhooter of any of the ſorts; and will arrive to be the higheſt, the common hornbeam only excepted. It will grow to be thirty or forty feet high. The branches of this tree are leſs ſpotted with greyiſh ſpots than any of the other ſorts. The leaves are very rough, of a dark-green colour, and are longer than the common ſort. The property which the common hornbeam is poſſeſſed of, of retaining its leaves all winter, does not belong to this ſort, the leaves of which conſtantly fall off in the autumn with other deciduous trees. American hornbeam is a more elegant tree than any of the former ſorts. The branches are ſlender, covered with a browniſh ſpeckled bark, and are more ſparingly ſent forth than from any of the others. The leaves are oblong, pointed, and of a paliſh green, and are not nearly ſo rough as the common hornbeam, though the flowers and fruit are produced in the ſame manner.

2. The oſtrya, or hop-hornbeam, a native of Italy and of Virginia. This is of taller growth than the eaſtern kind. It will arrive to the height of twenty feet, or more. The leaves are nearly the ſize of the common

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Carpinus

Carpocratians.

common ſort, and ſome people admire this tree on account of the ſingular appearance it makes with its ſeeds, before they begin to fall. There is a variety which grows to thirty feet high, ſhoots freely, has long rough leaves like thoſe of the elm, and longiſh yellow-coloured flowers, called the *Virginian flowering hop-hornbeam*.

Propagation. The common hornbeam may be propagated either by layering (at almoſt any time of the year), or from ſeeds in the following manner: In the autumn the ſeeds will be ripe; when, having gathered a ſufficient quantity for the purpoſe, let them be ſpread upon a mat a few days to dry. After this, they ſhould be ſown in the ſeminary-ground, in beds four feet wide, with an alley of about two feet, and from one to two inches deep. In this bed they muſt remain till the ſecond ſpring before they make their appearance; and all the ſummer they lie concealed, the weeds ſhould conſtantly be plucked up as ſoon as they peep; for if they are neglected, they will get ſo ſtrong, and the fibres of their roots will be ſo far ſtruck down among the ſeeds, as to endanger the drawing many ſeeds out with them, on weeding the ground. After the young plants appear, they ſhould conſtantly be kept clear of weeds during the next ſummer; and if they were to be now and then gently refreſhed with water in dry weather, it would prove ſerviceable to them. In the ſpring following they may be taken out of theſe beds, and planted in the nurſery, in which ſituation they may remain till they are of a ſufficient ſize to plant out for ſtandards.

The other ſorts are to be propagated by layers; for which purpoſe a few plants for ſtools muſt be procured. The ſtools of the eaſtern hornbeam ſhould be planted a yard, and the other ſorts a yard and a half or two yards aſunder. After theſe plants have made ſome young ſhoots, they ſhould be layered in the autumn, and by that time twelvemonth they will have ſtruck root; at which time, or any time in the winter, or early in the ſpring, they ſhould be taken off, and planted in the nurſery-way, obſerving always to bruſh up the ſtool, that it may afford fine young ſhoots for freſh layering by the autumn following. The diſtance the plants ſhould be allowed in the nurſery need be no more than one foot, in rows that are two feet aſunder; and here they may ſtand, with the uſual nurſery care of weeding and digging the rows in winter, until they are to be finally planted out; though the Virginian hornbeam will frequently ſend forth two ſhoots, which will ſeem to ſtrive for maſtery in the lead. When this is obſerved, the weakeſt ſhould always be taken away, otherwiſe the tree will grow forked.

CARPOBALSAM, in the Materia Medica, the fruit of the tree which yields the true oriental balſam. The carpobalſam is uſed in Egypt, according to Proſper Alpinus, in all the intentions in which the balſam itſelf is applied: but the only uſe the Europeans make of it is in Venice treacle and mithridate; and in theſe not a great deal, for cubebs and juniper-berries are generally ſubſtituted in its place.

CARPOCRATIANS, a branch of the ancient Gnoſtics, ſo called from *Carpocrates*, who in the ſecond century revived and improved upon the errors of Simon Magus, Menander, Saturninus, and other Gnoſtics. He owned, with them, one ſole principle and father of all things, whoſe name as well as nature was unknown. The world, he taught, was created by angels, vaſtly inferior to the firſt principle. He oppoſed the divinity of Jeſus Chriſt; making him a mere man, begotten carnally on the body of Mary by Joſeph, though poſſeſſed of uncommon gifts which ſet him above other creatures. He inculcated a community of women; and taught, that the ſoul could not be purified, till it had committed all kinds of abominations, making that a neceſſary condition of perfection.

Carpolithi ll Carrara.

CARPOLITHI, or Fruit-ſtone Rocks of the Germans, are compoſed of a kind of jaſper, of the nature of the amygdaloides, or almond-ſtones. Bertrand aſſerts that the latter are thoſe which appear to be compoſed of elliptical pieces like petrified almonds, though in truth they are only ſmall oblong pieces of calcareous ſtone rounded by attrition, and ſometimes ſmall muſcle-ſhells connected by a ſtony concretion. The name of carpolithi, however, is given in general by writers on foſſils to all ſorts of ſtony concretions that have any reſemblance to fruit of whatever kind.

CARPUS, the wriſt. See Anatomy, N° 53.

CARR, a kind of rolling throne, uſed in triumphs, and at the ſplendid entries of princes. See Chariot.

The word is from the ancient Gauliſh, or Celtic, *Carr*; mentioned by Cæſar, in his commentaries, under the name *Carrus*. Plutarch relates, that Camillus having entered Rome in triumph, mounted on a carr drawn by four white horſes, it was looked on as too haughty an innovation.

Carr is alſo uſed for a kind of light open chariot. The carr, on medals, drawn either by horſes, lions, or elephants, uſually ſignifies either a triumph or an apotheoſis: ſometimes a proceſſion of the images of the gods at a ſolemn ſupplication, and ſometimes of thoſe of ſome illuſtrious family at a funeral. The carr covered, and drawn by mules, only ſignifies a conſecration, and the honour done any one of having his image carried at the games of the circus. See Conſecration, &c.

CARRAC, or Carraca, a name given by the Portugueſe to the veſſels they ſend to Braſil and the Eaſt-Indies; being very large, round built, and fitted for fight as well as burden. Their capacity lies in their depth, which is very extraordinary. They are narrower above than underneath, and have ſometimes ſeven or eight floors; they carry about 2000 tons, and are capable of lodging 2000 men; but of late they are little uſed. Formerly they were alſo in uſe among the knights of Rhodes, as well as among the Genoeſe, and other Italians. It is a cuſtom among the Portugueſe, when the carracs returned from India, not to bring any boat or ſloop for the ſervice of the ſhip beyond the iſland of St Helena; at which place they ſink them on purpoſe, in order to take from the crew all hopes or poſſibility of ſaving themſelves, in caſe of ſhipwreck.

CARRARA marble, among our artificers, the name of a ſpecies of white marble, which is called *marmor lunenſe*, and *Ligyſtrium* by the ancients: it is diſtinguiſhed from the Parian, now called the ſtatuary marble, by being harder and leſs bright.

CAR

Carraveira ‖ Carrick

CARRAVEIRA, a town of Turkey in Europe, with a Greek archbiſhop's ſee. E. Long. 22. 25. N. Lat. 40. 27.

CARRIAGE, a vehicle ſerving to convey perſons, goods, merchandizes, and other things, from one place to another.

For the conſtruction and mechanical principles of wheel-carriages, ſee MECHANICS.

CARRIAGE of a cannon, the frame or timber work on which it is mounted, ſerving to point it for ſhooting, or to carry it from one place to another. It is made of two planks of wood, commonly of one-half the length of the gun, called the cheeks, and joined by three wooden tranſums, ſtrengthened with three bolts of iron. It is mounted on two wheels, but on a march has two fore-wheels with limbers added. The principal parts of a carriage are the cheeks, tranſums, bolts, plates, train, bands, bridge, bed, hooks, trunnion holes, and eapſquare.

Block-CARRIAGE, a cart made on purpoſe for carrying mortars and their beds from place to place.

Truck-CARRIAGE, two ſhort planks of wood, ſupported on two axle-trees, having four trucks of ſolid wood for carrying mortars or guns upon battery, where their own carriages cannot go. They are drawn by men.

CARRICK, the ſouthern diviſion of the ſhire of Ayr in Scotland. It borders on Galloway; ſtretches 32 miles in length; and is a hilly country fit for paſturage. The chief rivers are the Steneher and Girven, both abounding with ſalmon; here are alſo ſeveral lakes and foreſts; and the people on the coaſt employ themſelves in the herring-fiſhery, though they have no harbour of any conſequence. The only towns of this diſtrict are Bargeny and Maybole, two inconſiderable villages, yet the firſt gave the title (now extinct) of baron to a branch of the Hamilton family. The prince of Wales, as prince of Scotland, is earl of Carrick.

CARRICK on the Sure, a town of Ireland, in the county of Tipperary and province of Munſter. W. Long. 7. 14. N. Lat. 52. 16.

CARRICK-Fergus, a town of Ireland, in the county of Antrim and province of Ulſter. It is a town and county in itſelf, and ſends two members to parliament. It is very rich and populous, with a good harbour; and is governed by a mayor, recorder, and ſheriffs.—It has, however, been of far greater conſequence than at preſent, as appears from the mayor having been admiral of a conſiderable extent of coaſt in the counties of Down and Antrim, and the corporation enjoying the cuſtoms paid by all veſſels within theſe bounds, the creeks of Belfaſt and Bangor excepted. This grant was repurchaſed, and the cuſtom-houſe transferred to Belfaſt.—Here is the ſkeleton of a fine houſe built by Lord Chicheſter in the reign of James I. an old Gothic church with many family monuments, and a very large old caſtle. The town was formerly walled round, and ſome part of the walls is ſtill remaining entire.—Carrick-fergus is ſeated on a bay of the ſame name in the Iriſh channel; and is noted for being the landing place of king William in 1690. Here alſo Thurot made a deſcent in 1759, took poſſeſſion of the caſtle, and carried away hoſtages for the ranſom of the town; but being ſoon after purſued by commodore Elliot, his three ſhips were taken, and he himſelf was killed. Carrick.

CARRIER, is a perſon that carries goods for others for hire. A common carrier, having the charge and carriage of goods, is to anſwer for the ſame, or the value, to the owner. And where goods are delivered to a carrier, and he is robbed of them, he ſhall be charged and anſwer for them, becauſe of the hire. If a common carrier who is offered his hire, and who has convenience, refuſes to carry goods, he is liable to an action, in the ſame manner as an inn-keeper who refuſes to entertain a gueſt. See ASSUMPSIT.

One brought a box to a carrier, with a large ſum of money, and the carrier demanded of the owner what was in it; he anſwered, that it was filled with ſilks, and ſuch like goods: upon which the carrier took it, and was robbed, and adjudged to make it good; but a ſpecial acceptance, as, *provided there is no charge of money*, would have excuſed the carrier.—A perſon delivered to a carrier's book-keeper two bags of money ſealed up, to be carried from London to Exeter, and told him that it was L. 200, and took his receipt for the ſame, with promiſe of delivery for 10 s *per cent.* carriage and riſk: though it be proved that there was L. 400 in the bags, if the carrier be robbed, he ſhall anſwer only for L. 200, becauſe there was a particular undertaking for that ſum and no more; and his reward, which makes him anſwerable, extends no farther. If a common carrier loſes goods which he is intruſted to carry, a ſpecial action on the caſe lies againſt him, on the cuſtom of the realm, and not trover; and ſo of a common carrier by boat. An action will lie againſt a porter, carrier, or barge-man, upon his bare receipt of the goods, if they are loſt through negligence. Alſo a lighter-man ſpoiling goods he is to carry, by letting water come to them, action of the caſe lies againſt him, on the common cuſtom. *Jacob's Law Dict.*

CARRIER-Pigeon, or *courier-pigeon*, a ſort of pigeon uſed, when properly trained, to be ſent with letters from one place to another. See COLUMBA.

Though you carry theſe birds hood-winked, 20, 30, nay, 60 or 100 miles, they will find their way in a very little time to the place where they were bred. They are trained to this ſervice in Turkey and Perſia; and are carried firſt, while young, ſhort flights of half a mile, afterwards more, till at length they will return from the fartheſt part of the kingdom. Every Baſhaw has a baſket of theſe pigeons bred in the ſeraglio, which, upon any emergent occaſion, as an inſurrection, or the like, he diſpatches, with letters braced under their wings, to the ſeraglio; which proves a more ſpeedy method, as well as a more ſafe one, than any other; he ſends out more than one pigeon, however, for fear of accidents. Lithgow aſſures us, that one of theſe birds will carry a letter from Babylon to Aleppo, which is 30 days journey, in 48 hours. This is alſo a very ancient practice; Hirtius and Brutus, at the ſiege of Modena, held a correſpondence with one another by means of pigeons. And Ovid tells us, that Tauroſthenes, by a pigeon ſtained with purple, gave notice to his father of his victory at the Olympic Games, ſending it to him at Ægina.

In modern times, the moſt noted were the pigeons of Aleppo,

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Carrier, Carron.

Aleppo, which ſerved as couriers at Alexandretta and Bagdad. But this uſe of them has been laid aſide for the laſt 30 or 40 years, becauſe the Curd robbers killed the pigeons. The manner of ſending advice by them was this: they took pairs which had young ones, and carried them on horſeback to the place from whence they wiſhed them to return, taking care to let them have a full view. When the news arrived, the correſpondent tied a billet to the pigeon's foot, and let her looſe. The bird, impatient to ſee its young, flew off like lightning, and arrived at Aleppo in ten hours from Alexandretta, and in two days from Bagdad. It was not difficult for them to find their way back, ſince Aleppo may be diſcovered at an immenſe diſtance. This pigeon has nothing peculiar in its form, except its noſtrils, which, inſtead of being ſmooth and even, are ſwelled and rough.

CARRON, a ſmall but remarkable river in Scotland, riſing about the middle of the iſthmus between the friths of Forth and Clyde. Both its ſource, and the place where it emptieth itſelf into the ſea, are within the ſhire of Stirling, which it divides into two nearly equal parts. The whole length of its courſe, which is from weſt to eaſt, is not above 14 miles. It falls into the frith of Forth about three miles to the north-eaſt of Falkirk. The ſtream thereof is but ſmall, and ſcarce deſerves the notice of a traveller; yet there is no river in Scotland, and few in the whole iſland of Britain, whoſe banks have been the ſcene of ſo many memorable tranſactions. When the Roman empire was in all its glory, and had its eaſtern frontiers upon the Enphrates, the banks of Carron were its boundaries upon the north-weſt; for the wall of Antoninus *, which was raiſed to mark the limits of that mighty empire, ſtood in the neighbourhood of this river, and ran parallel to it for ſeveral miles.

* See *Antonine's Wall.*

Near the middle of its courſe, in a pleaſant valley, ſtand two beautiful mounts, called the *Hills of Dunipace*, which are taken notice of by moſt of the Scottiſh hiſtorians as monuments of great antiquity. The whole ſtructure of theſe mounts is of earth; but they are not both of the ſame form and dimenſions. The more eaſterly one is perfectly round, reſembling an oven, and about fifty feet in height: And that this is an artificial work does not admit of the leaſt doubt; but we cannot affirm the ſame, with equal certainty, of the other, though it has been generally ſuppoſed to be ſo too. It bears no reſemblance to the eaſtern one either in ſhape or ſize. At the foundation it is nearly of a triangular form; but the ſuperſtructure is quite irregular; nor does the height thereof bear any proportion to the extent of its baſe. Theſe mounts are now planted with firs, which, with the pariſh-church of Dunipace ſtanding in the middle between them, and the river running hard by, give this valley a very romantic appearance. The common account given of theſe mounts is, that they were erected as monuments of a peace concluded in that place between the Romans and the Caledonians, and that their name partakes of the language of both people; *Dun* ſignifying a hill in the old language of this iſland, and *Pax* "peace" in the language of Rome. The compound word, *Dunipace*, ſignifies "the hills of peace." And we find in hiſtory, that no leſs than three treaties of peace were, at different periods, entered into between the Romans and Caledonians; the firſt, by Severus, about the year 210; the ſecond, ſoon after, by his ſon Caracalla; and the third, by the uſurper Carauſius, about the year 280; but of which of thoſe treaties Dunipace is a monument, we do not pretend to determine. If the concurring teſtimony of hiſtorians and antiquaries did not agree in giving this original to theſe mounts, we would be tempted to conjecture that they are ſepulchral monuments. Human bones and urns have been diſcovered in earthen fabrics of this kind in many parts of this iſland, and the little mounts or barrows, which are ſcattered in great numbers about Stonhenge in Saliſbury plain are generally ſuppoſed to have been the ſepulchres of the ancient Britons. See Barrows.

Carron.

From the valley of Dunipace, the river runs for ſome time in a deep and hollow channel, with ſteep banks on both ſides: here it paſſes by the foundations of the ancient Roman bridge; not far from which, as is generally thought, was the ſcene of the memorable conference betwixt the Scottiſh patriot William Wallace and Robert Bruce, father to the king of that name, which firſt opened the eyes of the latter to a juſt view, both of his own true intereſt and that of his country.

After the river has left the village and bridge of Larbert, it ſoon comes up to another ſmall valley, through the midſt of which it has now worn out to itſelf a ſtraight channel; whereas, in former ages, it had taken a conſiderable compaſs, as appears by the tract of the old bed, which is ſtill viſible. The high and circling banks upon the ſouth-ſide, give to this valley the appearance of a ſpacious bay; and, according to the tradition of the country, there was once an harbour here: nor does the tradition ſeem altogether groundleſs; pieces of broken anchors having been found here, and ſome of them within the memory of people yet alive. The ſtream-tides would ſtill flow near the place, if they were not kept back by the dam-head built acroſs the river at Stenhouſe; and there is reaſon to believe, that the frith flowed conſiderably higher in former ages than it does at preſent. In the near neighbourhood of this valley, upon the ſouth, ſtand the ruins of ancient Camelon; which, after it was abandoned by the Romans, was probably inhabited, for ſome ages, by the natives of the country.

Another ancient monument, called *Arthur's Oven*, once ſtood upon the banks of Carron; but was, with a ſpirit truly Gothic, entirely demoliſhed about 40 years ago. The corner of a ſmall incloſure between Stenhouſe and the Carron iron-works, is pointed out as the place of its ſituation. This is generally ſuppoſed to have been a Roman work; though it is not eaſy to conceive what could be their motive for erecting ſuch a fabric, at ſo great a diſtance from any other of their works, and in a ſpot which, at that time, muſt have been very remote and unfrequented. The form of it is ſaid to have been perfectly round, and riſing perpendicular for ſome yards at firſt, but afterwards gradually contracted, till it terminated in a narrow orifice at the top. Antiquaries are not agreed whether it had been a temple, or a trophy, or a mauſoleum; but the moſt common opinion is, that it had been a temple, and,

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Carron. and, Buchanan thinks, a temple of Termious. Hector Boetius says, that there were benches of stone all around it, upon the inside; and that there had been a large stone for sacrificing upon, or an altar, upon the south side.

As Carron extends over the half of the isthmus, and runs so near the ancient boundaries of the Roman empire, the adjacent country fell naturally to be the scene of many battles and rencounters. Historians mention a bloody battle fought near this river between the Romans and the confederate army of the Scots and Picts in the beginning of the 5th century. The scenes of some of Ossian's poems were, in the opinion of the translator, upon the banks of this river. Here Fingal fought with Caracal, the son of the king of the world, supposed to have been the same with Caracalla the son of the Roman emperor Severus. Here also young Oscar, the son of Ossian, performed some of his heroic exploits. Hereabout was the stream of Crona, celebrated in the ancient compositions of the Gaelic bard; possibly that now called the water of Bonny, which runs in the neighbourhood of the Roman wall, and dischargeth itself into Carron at Dunipace. In those poems, mention is made of a green vale upon the banks of this river, with a tomb standing in the middle of it, where young Oscar's party and the warriors of Caros met. We only take notice of this as it strengthens the conjecture hazarded above, that the mounts of Dunipace, especially the more easterly of them, were sepulchral monuments.—About the distance of half a mile from the river, and near the town of Falkirk, lies the field of that battle which was fought by William Wallace and the English in the beginning of the 14th century. It goes by the name of *Graham's muir*, from the valiant John Graham, who fell there, and whose grave-stone is still to be seen in the church-yard of Falkirk.

The river Carron, though it hath long since ceased to roll its stream amidst the din of arms, still preserves its fame, by lending its aid to trade and manufactures; (see the next article.)—The river is navigable for some miles near its mouth, and a considerable trade is carried on upon it by small craft; for the convenience of which, its channel has of late years been straightened and much shortened, and the great Canal * has its entrance from it.

* See the article *Canal*.

Carron-Works, a large iron-foundery, two miles north from Falkirk in Scotland. They are conveniently situated on the banks of the Carron, three miles above its entry into the frith of Forth. Above 100 acres of land have been converted into reservoirs and pools, for water diverted from the river, by magnificent dams built about two miles above the works, which, after turning 18 large wheels for the several purposes of the manufacture, falls into a tide-navigation that conveys their castings to the sea.

These works are the greatest of the kind in Europe, and were established in 1760. At present, the buildings are of vast extent; and the machinery, constructed by Mr Smeaton, is the first in Britain, both in elegance and correctness: there are 1600 men employed, to whom is paid weekly above 650 l. Sterling; which has greatly enriched the adjoining country: 6500 tons of iron are smelted annually from the mineral with pit-coal, and cast into cannon, cylinders, &c.—In the founding of cannon, these works have lately arrived at such perfection, that they make above 5000 pieces a-year, many of which are exported to foreign states; and their guns of *new construction* are the lightest and neatest now in use, not excepting brass guns; the 32 pounder ship-gun weighing 42 hundred-weight, the 6 pounder 8 hundred-weight and one half, and the other calibers in proportion. Carre || Carrucate.

The present proprietors are a chartered company, with a capital of 150,000 l. Sterling, a common seal, &c. but their stock is confined to a very few individuals.

CARRONADE, a short kind of ordnance, capable of carrying a large ball, and useful in close engagements at sea. It takes its name from Carron, the place where this sort of ordnance was first made, or the principle applied to an improved construction. See the article Gunnery, n° 45, 46.

CARROT, in Botany. See Daucus.

Deadly-Carrot. See Thapsia.

CARROUSAL, a course of horses and chariots, or a magnificent entertainment exhibited by princes on some public rejoicing. It consists in a cavalcade of several gentlemen, richly dressed and equipped after the manner of ancient cavaliers, divided into squadrons, meeting in some public place, and practising justs, tournaments, &c. The last carrousals were in the reign of Louis XIV.—The word comes from the Italian word *carosello*, a diminutive of *carro*, "chariot." Tertullian ascribes the invention of carrousals to Circe; and will have them instituted in honour of the Sun, her father; whence some derive the word from *carrus* or *currus solis*. The Moors introduced cyphers, liveries, and other ornaments of their arms, with trappings, &c. for their horses. The Goths added crests, plumes, &c.

CARRUCA, in antiquity, a splendid kind of carr, or chariot, mounted on four wheels, richly decorated with gold, silver, ivory, &c. in which the emperors, senators, and people of condition, were carried. The word comes from the Latin *carrus*, or British carr, which is still the Irish name for any wheel-carriage.

Carauca, or Caruca, is also used in middle-age writers for a plough.

Carauca was also sometimes used for *carrucata*. See Carucate.

CARUCAGE, (*carucagium*,) a kind of tax anciently imposed on every plough, for the public service. See Carrucate and Hidage.

Carrucage, Carucage, or Cavage, in husbandry, denotes the ploughing of ground, either ordinary, as for grain, hemp, and flax; or extraordinary, as for woad, dyers weed, rape, and the like.

CARRUCATE, (*carrucata*,) in our ancient laws and history, denotes a plough-land, or as much arable ground as can be tilled in one year with one plough.

In Doomsday Inquisition, the arable land is estimated in carrucates, the pasture in hides, and meadow in acres. Skene makes the *carrucata* the same with *hilda*, or *hida terræ*; Littleton the same with foc.

The measure of a carrucate appears to have differed in respect of place as well as time. In the reign of Richard I. it was estimated at 60 acres, and in another

Carrying Carſtairs.

nother charter of the ſame reign at 100 acres: in the time of Edward I. at 180 acres: and in the 23d of Edward III. a carrucate of land in Bureeſter contained 112 acres, and in Middletou 150 acres.

By a ſtatute under William III. for charging perſons to the repair of the highways, a plough-land is rated at a fifty pounds *per annum*, and may contain houſes, mills, wood, paſture, &c.

CARRYING, in falconry, ſignifies a hawk's flying away with the quarry. Carrying is one of the ill qualities of a hawk, which ſhe acquires either by a diſlike of the falconer, or not being ſufficiently broke to the lure.

Carrying, among huntſmen. When a hare runs on rotten ground (or even ſometimes in a froſt), and it ſticks to her feet, they ſay ſhe carries.

Carrying, among riding-maſters. A horſe is ſaid to carry low, when having naturally an ill-ſhaped neck, he lowers his head too much. All horſes that arm themſelves carry low, but a horſe may carry low without arming. A French branch, or gigot, is preſcribed as a remedy againſt carrying low.

A horſe is ſaid to carry well, when his neck is raiſed, or arched, and he holds his head high and firm, without conſtraint.

Carrying Wind, a term uſed by our dealers in horſes to expreſs ſuch a one as frequently toſſes his noſe as high as his ears, and does not carry handſomely. This is called *carrying wind;* and the difference between carrying in the wind, and beating upon the hand, is this: that the horſe who beats upon the hand, ſhakes the bridle and reſiſts it, while he ſhakes his head; but the horſe that carries in the wind puts up his head without ſhaking, and ſometimes beats upon the hand. The oppoſite to carrying in the wind, is arming and carrying low; and even between theſe two there is a difference in wind.

CARS, or Kars, a conſiderable and ſtrong town of Aſia, in Armenia, ſeated on a river of the ſame name, with a caſtle almoſt impregnable. E. Long. 43. 50. N. Lat. 41. 30.

CARSE, *or Carſe of Gowry*, a diſtrict of Perthſhire in Scotland. It lies on the north ſide of the Tay, and extends 14 miles in length from Dundee to Perth, and is from two to four in breadth. It is a rich plain country, cultivated like a garden, and producing as good harveſts of wheat as any in Great Britain. It abounds with all the neceſſaries of life; but from its low damp ſituation, the inhabitants are ſubject to agues, and the commonalty are in great want of firing. In this diſtrict, not far from the Tay, ſtands the houſe of Errol, which formerly belonged to the Earls of that name, the chiefs of the ancient family of Hay, hereditary conſtables of Scotland.

CARSTAIRS (William), an eminent Scots Divine, whoſe merit and good fortune called him to act in great ſcenes, and to aſſociate with men to whoſe ſociety and intercourſe his birth gave him few pretenſions to aſpire. A ſmall village, in the neighbourhood of Glaſgow, was the place of his nativity. His father, of whom little is known, exerciſed the functions of a clergyman.

Young Carſtairs turned his thoughts to the profeſſion of theology; and the perſecutions and oppreſſions of government, both in regard to civil and religious liberty, having excited his ſtrongeſt indignation, it became a matter of prudence that he ſhould proſecute his ſtudies in a foreign univerſity. He went accordingly to Utrecht; and his induſtry and attention being directed with ſkill, opened up and unfolded thoſe faculties which he was about to employ with equal honour to his country and himſelf. Carſtairs.

During his reſidence abroad, he became acquainted with Penſionary Fagel, and entered with warmth into the intereſt of the Prince of Orange. On his return to Scotland to procure a licenſe to teach doctrines which he had ſtudied with the greateſt care, he became diſguſted with the proud and inſolent conduct of Archbiſhop Sharp, and prepared to reviſit Holland; where he knew that religious liberty was reſpected, and where he hoped he might better his condition by the connections he had formed.

His expectations were not vain. His prudence, his reſerve, and his political addreſs, were ſtrong recommendations of him to the Prince of Orange; and he was employed in perſonal negociations in Holland, England, and Scotland. Upon the elevation of his maſter to the Engliſh throne, he was appointed the King's chaplain for Scotland, and employed in ſettling the affairs of that kingdom. William, who carried politics into religion, was ſolicitous that epiſcopacy ſhould prevail there as univerſally as in England. Carſtairs, more verſant in the affairs of his native country, ſaw all the impropriety of this project, and the danger that would ariſe from the enforcing of it. His reaſonings, his remonſtrances, his intreaties, overcame the firmneſs of king William. He yielded to conſiderations founded alike in policy and in prudence; and to Carſtairs, Scotland is indebted for the full eſtabliſhment of its church in the Preſbyterian form of government.

The death of King William was a ſevere affliction to him; and it happened before that Prince had provided for him with the liberality he deſerved. He was continued, however, in the office of chaplain for Scotland by Queen Anne; and he was invited to accept the Principality of the Univerſity of Edinburgh. He was one of the miniſters of the city, and four times moderator of the general aſſembly. Placed at the head of the church, he proſecuted its intereſt with zeal and with integrity. Nor were his influence and activity confined to matters of religion. They were exerted with ſucceſs in promoting the culture of the arts and ſciences. The univerſities of Scotland owe him obligations of the higheſt kind. He procured, in particular, an augmentation of the ſalaries of their profeſſors; a circumſtance to which may be aſcribed their reputation, as it enabled them to cultivate with ſpirit the different branches of knowledge.

A zeal for truth, a love of moderation and order, prudence and humanity, diſtinguiſhed Principal Carſtairs in an uncommon degree. His religion had no mixture of auſterity; his ſecular tranſactions were attended with no imputation of artifice; and the verſatility of his talents made him paſs with eaſe from a court to a college. He was among the laſt who ſuffered torture before the privy-council, in order to make make him divulge the ſecrets intruſted to him, which he firmly reſiſted; and after the revolution, that inhuman inſtrument the thumb-ſcrew was given to him in a preſent by the council.—This excellent perſon

Carſughi ‖ Carte.

died in 1715; and in 1774 his *State-papers and Letters*, with an account of his life, were publiſhed in one vol. 4to, by the Rev. Dr M'Cormick.

CARSUGHI (Rainier), a Jeſuit, born at Citerna in Tuſcany, in 1647, was the author of a Latin poem, entitled, *Ars bene ſcribendi*, which is eſteemed both for the elegance of the ſtyle and for the excellent precepts it contains. He alſo wrote ſome good epigrams. He died in 1709.

CARTAMA, a town of Spain in the kingdom of Grenada, formerly very conſiderable. It is ſeated at the foot of a mountain, near the river Guadala-Medina, in W. Long. 4. 28. N. Lat. 36. 40.

CART, a land-carriage with two wheels, drawn commonly by horſes, to carry heavy goods, &c. from one place to another. The word ſeems formed from the French *charrette*, which ſignifies the ſame, or rather the Latin *carreta*, a diminutive of *carrus*. See CARA.

In London and Weſtminſter carts ſhall not carry more than twelve ſacks of meal, ſeven hundred and fifty bricks, one chaldron of coals, &c. on pain of forfeiting one of the horſes, (6 Geo. I. cap. 6.) By the laws of the city, carr-men are forbidden to ride either on their carts or horſes. They are to lead or drive them on foot through the ſtreets on the forfeiture of ten ſhillings, (Stat. 1 Geo. I. cap. 57.) Criminals uſed to be drawn to execution in a cart. Bawds and other malefactors are whipped at the cart's tail.

Scripture makes mention of a ſort of carts or drags uſed by the Jews to do the office of threſhing. They were ſupported on low thick wheels, bound with iron, which were rolled up and down on the ſheaves, to break them, and force out the corn. Something of the like kind alſo obtained among the Romans, under the denomination of *plauſtra*, of which Virgil makes mention, (Georg. I.)

Tardaque Eleuſine matris volventia plauſtra,
Tribulaque, trahcaque.——

On which Servius obſerves, that *trahea* denotes a cart without wheels, and *tribula* a ſort of cart armed on all ſides with teeth, uſed chiefly in Africa for threſhing corn. The Septuagint and St Jerome repreſent theſe carts as furniſhed with ſaws, inſomuch that their ſurface was beſet with teeth. David having taken Rabbah, the capital of the Ammooites, ordered all the inhabitants to be cruſhed to pieces under ſuch carts, moving on wheels ſet with iron teeth; and the king of Damaſcus is ſaid to have treated the Iſraelites of the land of Gilead in the ſame manner.

CART-Bote, in law, ſignifies wood to be employed in making and repairing inſtrumeots of huſbandry.

CARTS of War, a peculiar kind of artillery anciently in uſe among the Scots. They are thus deſcribed in an act of parliament, A. D. 1456: "It is thocht ſpeidfull, that the King mak requeiſt to certain of the great burrous of the land that are of ony myght, to mak carts of weir, and in ilk cart twa guonis, and ilk ane to have twa chalmers, with the remanent of the graith that effeirs thereto, and an cunnand man to ſhut thame." By another act, A. D. 1471, the prelates and barons are commanded to provide ſuch carts of war againſt their old enemies the Engliſh.

CARTE (Thomas), the hiſtorian, was the ſon of Mr Samuel Carte prebendary of Litchfield, and born in 1686. When he was reader in the abbey-church at Bath, he took occaſion, in a 30th of January ſermon, 1714, to vindicate Charles I. with reſpect to the Iriſh maſſacre, which drew him into a controverſy with Mr Chandler the diſſenting miniſter; and on the acceſſion of the preſent royal family he refuſed to take the oaths to government, and put on a lay habit. He is ſaid to have acted as a kind of ſecretary to Biſhop Atterbury before his troubles; and in the year 1722, being accuſed of high treaſon, a reward of 1000*l.* was offered for apprehending him: but Queen Caroline, the great patroneſs of learned men, obtained leave for him to return home in ſecurity. He publiſhed, 1. An edition of Thuanus, in ſeven volumes folio. 2. The Life of the firſt Duke of Ormond, three volumes, folio. 3. The Hiſtory of England, four volumes, folio. 4. A Collection of Original Letters and Papers concerning the affairs of England, two volumes octavo; and ſome other works. He died in April 1754.—His hiſtory of England ends in 1654. His deſign was to have brought it down to the Revolution; for which purpoſe he had taken great pains in copying every thing valuable that could be met with in England, Scotland, France, Ireland, &c.—He had (as he himſelf ſays, p. 43. of his Vindication of a full anſwer to a letter from a byſtander), "read abundance of collections relating to the time of King Charles II. and had in his power a ſeries of memoirs from the beginning to the end of that reign; in which all thoſe intrigues and turns at court, at the latter end of that king's life, which biſhop Burnet, with all his goût for tales of ſecret hiſtory, and all his genius for conjectures, does not pretend to account for, are laid open in the cleareſt and moſt convincing manner; by the perſon who was moſt affected by them, and had the beſt reaſon to know them."—At his death, all his papers came into the hands of his widow, who afterwards married Mr Jernegan, a member of the church of Rome. They are now depoſited in the Bodleian library, having been delivered by Mr Jernegan to the univerſity, 1778, for a valuable conſideration. Whilſt they were in this gentleman's poſſeſſion, the earl of Hardwicke paid 200*l.* for the peruſal of them. For a conſideration of 300*l.* Mr Macpherſon had the uſe of them; and from theſe and other materials compiled his hiſtory and ſtate-papers. Mr Carte was a man of a ſtrong conſtitution and indefatigable application. When the ſtudies of the day were over, he would eat heartily; and in converſation was cheerful and entertaining.

Carte, Cartel.

CARTE-Blanche, a ſort of white paper, ſigned at the bottom with a perſon's name, and ſometimes alſo ſealed with his ſeal, giving another perſon power to ſuperſcribe what conditions he pleaſes. Much like this is the French *blanc ſigne*, a paper without writing, except a ſignature at the bottom, given by contending parties to arbitrators or friends, to fill up with the conditions they judge reaſonable, in order to end the difference.

CARTEL, an agreement between two ſtates for the exchange of their priſoners of war.

CARTEL ſignifies alſo a letter of defiance or a challenge to decide a controverſy either in a tournament or in a ſingle combat. See DUEL.

CARTEL-Ship, a ſhip commiſſioned in time of war to exchange

Cartes. exchange the prifoners of any two hoftile powers; alfo to carry any particular reqneft or propofal from one to another: for this reafon, the officer who commands her is particularly ordered to carry no cargo, ammunition, or implements of war, except a fingle gun for the purpofe of firing fignals.

CARTES (Rene des), defcended of an ancient family in Touraine in France, was one of the moft eminent philofophers and mathematicians in the 17th century. At the Jefuits College at la Fleche, he made a very great progrefs in the learned languages and polite literature, and became acquainted with Father Marfenne. His father defigned him for the army; but his tender conftitution then not permitting him to expofe himfelf to fuch fatigues, he was fent to Paris, where he launched into gaming, in which he had prodigious fuccefs. Here Marfenne perfuaded him to return to ftudy; which he purfued till he went to Holland, in May 1616, where he engaged as a volunteer among the prince of Orange's troops. While he lay in garrifon at Breda, he wrote a *treatife on mufic*, and laid the foundation of feveral of his works. He was at the fiege of Rochelle in 1628; returned to Paris; and, a few days after his return, at an aflembly of men of learning in the houfe of Monfignor Bagni the Pope's Nuncio, was prevailed upon to explain his fentiments with regard to philofophy, when the nuncio urged him to publifh his fyftem. Upon this he went to Amfterdam, and from thence to Franeker, where he began his *metaphyfical meditations*, and drew up his *difcourfe on meteors*. He made a fhort tour to England; and not far from London, made fome obfervations concerning the declination of the magnet. He returned to Holland, where he finifhed his *treatife on the world*.

His books made a great noife in France; and Holland thought of nothing but difcarding the old philofophy, and following his. Voetius being chofen rector of the univerfity of Utrecht, procured his philofophy to be prohibited, and wrote againft him; but he immediately publifhed a vindication of himfelf. In 1647, he took a journey into France, where the king fettled a penfion of 3000 livres upon him. Chriftina, queen of Sweden, having invited him into that kingdom, he went thither, where he was received with the greateft civility by her majefty, who engaged him to attend her every morning at five o'clock, to inftruct her in philofophy, and defired him to revife and digeft all his writings which were unpublifhed, and to form a complete body of philofophy from them. She likewife propofed to allow him a revenue, and to form an academy of which he was to be the director. But thefe defigns were broken off by his death in 1650. His body was interred at Stockholm, and 17 years afterwards removed to Paris, where a magnificent monument was erected to him in the church of St Genevieve du Mont. The great Dr Halley, in a paper concerning optics, obferves, that though fome of the ancients mention refraction as an effect of tranfparent mediums, Des Cartes was the firft who difcovered the laws of refraction, and reduced dioptrics to a fcience. As to his philofophy, Dr Keil, in his introduction to his examination of Dr Burnet's theory of the earth, fays, that Des Cartes was fo far from applying geometry to natural philofophy, that his whole fyftem is one continued blunder on account of his negligence in that point; the laws obferved by the planets in their revolutions round the fun, not agreeing with his theory of vortices. His philofophy has accordingly given way to the more accurate difcoveries and demonftrations of the Newtonian fyftem. Carteſians, Carthage.

CARTESIANS, a fect of philofophers, who adhered to the fyftem of Des Cartes, founded on the two following principles, the one metaphyfical, the other phyfical. The metaphyfical one is, *I think, therefore I am*: the phyfical principle is, that *nothing exifts but fubftance*. Subftance he makes of two kinds; the one a fubftance that thinks, the other a fubftance extended; whence actual thought, and actual extenfion, are the effence of fubftance.

The effence of matter being thus fixed in extenfion, the Carteſians conclude that there is no vacuum, nor any poffibility thereof in nature; but that the univerfe is abfolutely full: mere fpace is excluded by this principle; becaufe extenfion being implied in the idea of fpace, matter is fo too. Upon thefe principles, the Carteſians explained mechanically how the world was formed, and how the preſeat celeſtial phenomena came to take place. See ASTRONOMY, n° 252.

CARTHAGE, a famed city of antiquity, the capital of Africa Propria; and which, for many years, difputed with Rome the fovereignty of the world. According to Velleius Paterculus, this city was built 65, according to Juſtin and Trogus 72, according to others 100 or 140 years before the foundations of Rome were laid. It is on all hands agreed that the Phœnicians were the founders. 1 When founded.

The beginning of the Carthaginian hiſtory, like that of all other nations, is obſcure and uncertain. In the 7th year of Pygmalion king of Tyre, his ſiſter Eliſa, or Dido, is ſaid to have fled, with ſome of her companions and vaſſals, from the cruelty and avarice of her brother Sichæus. 2 Eliſa, or Dido, eſcapes from her brother.

She firſt touched at the iſland of Cyprus, where ſhe met with a prieſt of Jupiter, who was deſirous of attending her; to which ſhe readily conſented, and fixed the prieſthood in his family. At that time, it was a cuſtom in the iſland of Cyprus, for the young women to go on certain ſtated days, before marriage, to the ſea-ſide, there to look for ſtrangers, that might poſſibly arrive on their coaſts, in order to proſtitute themſelves for gain, that they might thereby acquire a dowry. Out of theſe, the Tyrians ſelected 80, whom they carried along with them. From Cyprus they ſailed directly for the coaſt of Africa; and at laſt ſafely landed in the province called *Africa Propria*, not far from Utica, a Phœnician city of great antiquity. The inhabitants received their countrymen with great demonſtrations of joy, and invited them to ſettle among them. The common fable is, that the Phœnicians impoſed upon the Africans in the following manner: They deſired, for their intended ſettlement, only as much ground as an ox's hide would encompaſs. This requeſt the Africans laughed at; but were ſurpriſed, when, upon their granting it, they ſaw Eliſa cut the hide into the ſmalleſt ſhreds, by which means it ſurrounded a large territory; in which ſhe built the citadel called *Byrſa*. The learned, however, are now unanimous 3 Builds the citadel Byrſa.

Carthage. animous in exploding this fable; and it is certain that the Carthaginians for many years paid an annual tribute to the Africans for the ground they poſſeſſed.

The new city ſoon became populous and flouriſhing, by the acceſſion of the neighbouring Africans, who came thither at firſt with a view of traffic. In a ſhort time it became ſo conſiderable, that *Jarbas*, a neighbouring prince, thought of making himſelf maſter of it without any effuſion of blood. In order to this, he deſired that an embaſſy of ten of the moſt noble Carthaginians might be ſent him; and, upon their arrival, propoſed to them a marriage with Dido, threatening war in caſe of a refuſal. The ambaſſadors, being afraid to deliver this meſſage, told the queen that Jarbas deſired ſome perſon might be ſent him who was capable of civilizing his Africans; but that there was no poſſibility of finding any of her ſubjects who would leave his relations for the converſation of ſuch barbarians. For this they were reprimanded by the queen; who told them that they ought to be aſhamed of refuſing to live in any manner for the benefit of their country. Upon this, they informed her of the true nature of their meſſage from Jarbas; and that, according to her own deciſion, ſhe ought to ſacrifice herſelf for the good of her country. The unhappy queen, rather than ſubmit to be the wife of ſuch a barbarian, cauſed a funeral pile to be erected, and put an end to her life with a dagger.

4 She kills herſelf.

This is Juſtin's account of the death of Queen Dido, and is the moſt probable; Virgil's ſtory of her amour with Æneas, being looked upon as fabulous, even in the days of Macrobius, as we are informed by that hiſtorian. How long monarchical government continued in Carthage, or what happened to this ſtate in its infancy, we are altogether ignorant, by reaſon of the Punic Archives being deſtroyed by the Romans; ſo that there is a chaſm in the Carthaginian hiſtory for above 300 years. It, however, appears, that from the very beginning, the Carthaginians applied themſelves to maritime affairs, and were formidable by ſea in the time of Cyrus and Cambyſes. From Diodorus Siculus and Juſtin, it appears, that the principal ſupport of the Carthaginians were the mines of Spain, in which country they ſeem to have eſtabliſhed themſelves very early. By means of the riches drawn from theſe mines, they were enabled to equip ſuch formidable fleets as we are told they fitted out in the time of Cyrus or Cambyſes. Juſtin inſinuates, that the firſt Carthaginian ſettlement in Spain happened when the city of Gades, now Cadiz, was but of late ſtanding, or even in its infancy. The Spaniards finding this new colony begin to flouriſh, attacked it with a numerous army, inſomuch that the inhabitants were obliged to call in the Carthaginians to their aid. The latter very readily granted their requeſt, and not only repulſed the Spaniards, but made themſelves maſters of almoſt the whole province in which their new city ſtood. By this ſucceſs, they were encouraged to attempt the conqueſt of the whole country: but having to do with very warlike nations, they could not puſh their conqueſts to any great length at firſt; and it appears from the accounts of Livy and Polybius, that the greateſt part of Spain remained unſubdued till the times of Hamilcar, Aſdrubal, and Hannibal.

5 Spaniſh mines of vaſt ſervice to the Carthaginians.

About 503 years before the birth of Chriſt, the Carthaginians entered into a treaty with the Romans. It related chiefly to matters of navigation and commerce. From it we learn, that the whole iſland of Sardinia, and part of Sicily, were then ſubject to Carthage; that they were very well acquainted with the coaſts of Italy, and had made ſome attempts upon them before this time; and that, even at this early period, a ſpirit of jealouſy had taken place between the two republics. Some time near this period, the Carthaginians had a mind to diſcontinue the tribute they had hitherto paid the Africans for the ground on which their city ſtood. But, notwithſtanding all their power, they were at preſent unſucceſsful; and at laſt were obliged to conclude a peace, one of the articles of which was, that the tribute ſhould be continued.

Carthage. 6 First treaty between Carthage and Rome.

By degrees the Carthaginians extended their power over all the iſlands in the Mediterranean, Sicily excepted; and for the entire conqueſt of this, they made vaſt preparations, about 480 years before Chriſt. Their army conſiſted of 300,000 men; their fleet was compoſed of upwards of 2000 men of war, and 3000 tranſports; and with ſuch an immenſe armament, they made no doubt of conquering the whole iſland in a ſingle campaign. In this, however, they found themſelves miſerably deceived. Hamilcar their general having landed his numerous forces, inveſted Himera, a city of conſiderable importance. He carried on his attacks with the greateſt aſſiduity; but was at laſt attacked in his trenches by Gelon and Theron, the tyrants of Syracuſe and Agrigentum, who gave the Carthaginians one of the greateſt overthrows mentioned in hiſtory. An hundred and fifty thouſand were killed in the battle and purſuit, and all the reſt taken priſoners; ſo that of ſo mighty an army, not a ſingle perſon eſcaped. Of the 2000 ſhips of war and 3000 tranſports, of which the Carthaginian fleet conſiſted, eight ſhips only, which then happened to be out at ſea, made their eſcape: theſe immediately ſet ſail for Carthage; but were all caſt away, and every ſoul periſhed, except a few who were ſaved in a ſmall boat, and at laſt reached Carthage with the diſmal news of the total loſs of the fleet and army. No words can expreſs the conſternation of the Carthaginians upon receiving the news of ſo terrible a diſaſter. Ambaſſadors were immediately diſpatched to Sicily, with orders to conclude a peace upon any terms. They put to ſea without delay; and landing at Syracuſe, threw themſelves at the conqueror's feet. They begged Gelon, with many tears, to receive their city into favour, and grant them a peace on whatever terms he ſhould chooſe to preſcribe. He granted their requeſt upon condition that Carthage ſhould pay him 2000 talents of ſilver to defray the expences of the war; that they ſhould build two temples, where the articles of the treaty ſhould be lodged and kept as ſacred; and that for the future they ſhould abſtain from human ſacrifices. This was not thought a dear purchaſe of a peace for which there was ſuch occaſion; and to ſhow their gratitude for Gelon's moderation, the Carthaginians complimented his wife Demarata with a crown of gold worth 100 talents.

7 Sicily invaded by the Carthaginians.

8 They are utterly deſtroyed.

9 Peace concluded.

From this time we find little mention of the Carthaginians for 70 years. Some time during this period, however, they had greatly extended their dominions

Carthage. minions in Africa, and likewiſe ſhaken off the tribute which gave them ſo much uneaſineſs. They had
10 Diſpute with the Cyreneans warm diſputes with the inhabitants of Cyrene the capital of Cyrenaica, about a regulation of the limits of their reſpective territories. The conſequence of theſe diſputes was a war, which reduced both nations ſo low, that they agreed firſt to a ceſſation of arms, and then to a peace. At laſt it was agreed, that each ſtate ſhould appoint two commiſſaries, who ſhould ſet out from their reſpective cities on the ſame day, and that the ſpot on which they met ſhould be
11 Story of the *Philæni*. the boundary of both ſtates. In conſequence of this, two brothers called *Philæni* were ſent out from Carthage, who advanced with great celerity, while thoſe from Cyrene were much more ſlow in their motions. Whether this proceeded from accident or deſign, or perfidy, we are not certainly informed; but, be this as it will, the Cyreneans finding themſelves greatly outſtripped by the Philæni, accuſed them of breach of faith, aſſerting that they had ſet out before the time appointed, and conſequently that the convention between their principals was broken. The Philæni deſired them to propoſe ſome expedient whereby their differences might be accommodated; promiſing to ſubmit to it, whatever it might be. The Cyreneans then propoſed, either that the Philæni ſhould retire from the place where they were, or that they ſhould be buried alive upon the ſpot. With this laſt condition the brothers immediately complied, and by their death gained a large extent of territory to their country. The Carthaginians ever after celebrated this as a moſt brave and heroic action; paid them divine honours; and endeavoured to immortalize their names by erecting two altars there, with ſuitable inſcriptions upon them.

12 Sicily invaded anew. About the year before Chriſt 412, ſome diſputes happening between the Egeſtines and Selinuntines, inhabitants of two cities in Sicily, the former called in the Carthaginians to their aſſiſtance; and this occaſioned a new inveſion of Sicily by that nation. Great preparations were made for this war; Hannibal, whom they had appointed general, was empowered to raiſe an army equal to the undertaking, and equip a ſuitable fleet. They alſo appointed certain funds for defraying all the expences of the war, intending to exert their whole force to reduce the iſland under their ſubjection.

13 Emporium and Selinus taken. The Carthaginian general having landed his forces, immediately marched for Selinus. In his way he took Emporium, a town ſituated on the river Mazara; and having arrived at Selinus, he immediately inveſted it. The beſieged made a very vigorous defence; but at laſt the city was taken by ſtorm, and the inhabitants were treated with the utmoſt cruelty. All were maſſacred by the ſavage conquerors, except the women who fled to the temples; and theſe eſcaped, not through the merciful diſpoſition of the Carthaginians, but becauſe they were afraid, that ſ driven to deſpair they would ſet fire to the temples, and by that means conſume the treaſure they expected to find in thoſe places. Sixteen thouſand were maſſacred; 2250 eſcaped to Agrigentum; and the women and children, about 5000 in number, were carried away captives. At the ſame time the temples were plundered, and the city raſed to the ground.

After the reduction of Selinus, Hannibal laid ſiege Carthage. to Himera; that city he deſired above all things to become maſter of, that he might revenge the death of
14 As likewiſe Himera. his grandfather Hamilcar, who had been ſlain before it by Gelon. His troops, flushed with their late ſucceſs, behaved with undaunted courage; but finding his battering engines not to anſwer his purpoſe ſufficiently, he undermined the wall, ſupporting it with large beams of timber, to which he afterwards ſet fire, and thus laid part of it flat on the ground. Notwithſtanding this advantage, however, the Carthaginians were ſeveral times repulſed with great ſlaughter; but at laſt they became maſters of the place, and treated it in the ſame manner as they had done Selinus. After this, Hannibal, diſmiſſing his Sicilian and Italian allies, returned to Africa.

The Carthaginians were now ſo much elated, that they meditated the reduction of the whole iſland. But as the age and infirmities of Hannibal rendered him incapable of commanding the forces alone, they joined in commiſſion with him Imilcar the ſon of Hanno, one of the ſame family. On the landing of the Carthaginian army, all Sicily was alarmed, and the principal cities put themſelves into the beſt ſtate of defence they were able. The Carthaginians im-
15 Agrigentum beſieged; mediately marched to Agrigentum, and began to batter the walls with great fury. The beſieged, however, defended themſelves with incredible reſolution, in a ſally burnt all the machines raiſed againſt their city, and repulſed the enemy with great ſlaughter. The Syracuſians in the mean time, being alarmed at the danger of Agrigentum, ſent an army to its relief. On their approach they were immediately attacked by the Carthaginians; but after a ſharp diſpute the latter were defeated, and forced to fly to the very walls of Agrigentum, with the loſs of 6000 men. Had the Agrigentine commanders now ſallied out, and fallen upon the fugitives, in all probability the Carthaginian army muſt have been deſtroyed; but either through fear or corruption, they refuſed to ſtir out of
16 And taken. the place, and this occaſioned the loſs of it. Immenſe booty was found in the city; and the Carthaginians behaved with their uſual cruelty, putting all the inhabitants to the ſword, not excepting even thoſe who had fled to the temples.

The next attempt of the Carthaginians was deſigned againſt the city of Gela: but the Geleans, being greatly alarmed, implored the protection of Syracuſe; and, at their requeſt, Dionyſius was ſent to aſſiſt them with 2000 foot and 400 horſe. The Geleans were ſo well ſatisfied with his conduct, that they treated him with the higheſt marks of diſtinction; they even ſent ambaſſadors to Syracuſe to return thanks for the important ſervices done them by ſending him thither; and ſoon after he was appointed generaliſſimo of the Syracuſian forces and thoſe of their allies againſt the Carthaginians. In the mean time Imilcar, having raſed the city of Agrigentum, made an incurſion into the territories of Gela and Comarina; which having ravaged in a dreadful manner, he carried off ſuch immenſe quantity of plunder, as filled his whole camp. He then marched againſt the city: but though
17 Gela beſieged. it was but indifferently fortified, he met with a very vigorous reſiſtance; and the place held out for a long time without receiving any aſſiſtance from its allies.

Carthage. At laſt Dionyſius came to its aſſiſtance with an army of 50,000 foot and 1000 horſe. With theſe he attacked the Carthaginian camp, but was repulſed with great loſs; after which, he called a council of war, the reſult of whoſe deliberations was, that ſince the enemy was ſo much ſuperior to them in ſtrength, it would be highly imprudent to put all to the iſſue of a battle; and therefore, that the inhabitants ſhould be perſuaded to abandon the country, as the only means of ſaving their lives. In conſequence of this, a trumpet was ſent to Imilcar to deſire a ceſſation of arms till the next day, in order, as was pretended, to bury the dead, but in reality to give the people of Gela an opportunity of making their eſcape. Towards the beginning of the night the bulk of the citizens left the place; and he himſelf with the army followed them about midnight. To amuſe the enemy, he left 2000 of his light armed troops behind him, commanding them to make fires all night, and ſet up loud ſhouts as though the army ſtill remained in town. At day-break theſe took the ſame route as their companions, and purſued their march with great celerity. The Carthaginians finding the city deſerted by the greateſt part of its inhabitants, immediately entered it, putting to death all who had remained; after which, Imilcar having thoroughly plundered it, moved towards Camarina. The inhabitants of this city had been likewiſe drawn off by Dionyſius, and it underwent the ſame fate with Gela.

18 Abandoned by its inhabitants

19 Peace concluded. Notwithſtanding theſe ſucceſſes, however, Imilcar finding his army greatly weakened, partly by the caſualties of war, and partly by a plague which broke out in it, ſent a herald to Syracuſe to offer terms of peace. His unexpected arrival was very agreeable to the Syracuſians, and a peace was immediately concluded upon the following terms, viz. That the Carthaginians, beſides their ancient acquiſitions in Sicily, ſhould ſtill poſſeſs the countries of the Sicani, the Selinuntines, the Himereans, and Agrigentines; that the people of Gela and Camarina ſhould be permitted to reſide in their reſpective cities, which yet ſhould be diſmantled, upon their paying an annual tribute to the Carthaginians; that all the other Sicilians ſhould preſerve their independency except the Syracuſians, who ſhould continue in ſubjection to Dionyſius.

20 Dionyſius breaks the treaty. The tyrant of Syracuſe, however, had concluded this peace with no other view than to gain time, and to put himſelf in a condition to attack the Carthaginian territories with greater force. Having accompliſhed this, he acquainted the Syracuſians with his deſign, and they immediately approved of it; upon which he gave up to the fury of the populace the perſons and poſſeſſions of the Carthaginians who reſided in Syracuſe, and traded there on the faith of treaties. As there were many of their ſhips at that time in the harbour, laden with cargoes of great value, the people immediately plundered them; and, not content with this, ranſacked all their houſes in a moſt outrageous manner. This example was followed throughout the whole iſland; and in the mean time Dionyſius diſpatched a herald to Carthage with a letter to the ſenate and people, telling them, that if they did not immediately withdraw their garriſons from all the Greek cities in Sicily, the people of Syracuſe would treat them as enemies. With this demand, however, he did not allow them to comply; for without waiting for any anſwer from Carthage, he advanced with his army to Mount Eryx, near which ſtood the city of Motya, a Carthaginian colony of great importance, and this he immediately inveſted. But ſoon after, leaving his brother Leptines to carry on the attacks, he himſelf went with the greateſt part of his forces to reduce the cities in alliance with the Carthaginians. He deſtroyed their territories with fire and ſword, cut down all their trees; and then he ſat down before Egeſta and Entella, moſt of the other towns having opened their gates at his approach: but theſe baffling his utmoſt efforts, he returned to Motya, and puſhed on the ſiege of that place with the utmoſt vigour.

Carthage.

The Carthaginians, in the mean time, though alarmed at the meſſage ſent them by Dionyſius, and though reduced to a miſerable ſituation by the plague which had broke out in their city, did not deſpond, but ſent officers to Europe, with conſiderable ſums, to raiſe troops with the utmoſt diligence. Ten gallies were alſo ſent from Carthage to deſtroy all the ſhips that were found in the harbour of Syracuſe. The admiral, according to his orders, entered the harbour in the night, without being diſcerned by the enemy; and having ſunk moſt of the ſhips he found there, returned without the loſs of a man.

21 Syracuſian ſhips deſtroyed.

All this while the Motyans defended themſelves with incredible vigour; while their enemies, deſirous of revenging the cruelties exerciſed upon their countrymen by the Carthaginians, fought like lions. At laſt the place was taken by ſtorm, and the Greek ſoldiers began a general maſſacre. For ſome time Dionyſius was not able to reſtrain their fury: but at laſt he proclaimed that the Motyans ſhould fly to the Greek temples; which they accordingly did, and a ſtop was put to the ſlaughter; but the ſoldiers took care thoroughly to plunder the town, in which they found a great treaſure.

22 Motya taken by the Greeks.

The following ſpring, Dionyſius invaded the Carthaginian territories, and made an attempt upon Egeſte; but here he was again diſappointed. The Carthaginians were greatly alarmed at his progreſs; but, next year, notwithſtanding a conſiderable loſs ſuſtained in a ſea-fight with Leptines, Himilco their general landed a powerful army at Panormus, ſeized upon Eryx, and then advancing towards Motya, made himſelf maſter of it, before Dionyſius could ſend any forces to its relief. He next advanced to Meſſana, which he likewiſe beſieged and took; after which moſt of the Sicili revolted from Dionyſius.

Notwithſtanding this defection, Dionyſius, finding his forces ſtill amount to 30,000 foot and 3000 horſe, advanced againſt the enemy. At the ſame time, Leptines was ſent with the Syracuſian fleet againſt that of the Carthaginians, but with poſitive orders not to break the line of battle upon any account whatever. But, notwithſtanding theſe orders, he thought proper to divide his fleet, and the conſequence of this was a total defeat; above 100 of the Syracuſian galleys being ſunk or taken, and 20,000 of their men killed in the battle or in the purſuit. Dionyſius diſheartened by this misfortune, returned with his army to Syracuſe, being afraid that the Carthaginian fleet might become maſters of that city, if he ſhould advance to fight the land army. Himilco did not fail immediately to inveſt the

23 Greeks defeated by the Carthaginians.

24 Syracuſe beſieged by the Carthaginians.

6 capital;

Carthage. capital; and had certainly become maſter of it, and conſequently of the whole iſland, had not a moſt malignant peſtilence obliged him to deſiſt from all further operations. This dreadful malady made great havock among his forces both by ſea and land; and to complete his misfortunes, Dionyſius attacked him unexpectedly, totally ruined his fleet, and made himſelf maſter of his camp.

25 Himilco obliged to return. Himilco finding himſelf altogether unable to ſuſtain another attack, was obliged to come to a private agreement with Dionyſius; who for 300 talents conſented to let him eſcape to Africa, with the ſhattered remains of his fleet and army. The unfortunate general arrived at Carthage, clad in mean and ſordid attire, where he was met by a great number of people bewailing their ſad and inauſpicious fortune. Himilco joined them in their lamentations; and being unable to ſurvive his misfortunes, put an end to his own life. He had left Mago in Sicily, to take care of the Carthaginian intereſts in the beſt manner he could. In order to this, Mago treated all the Sicilians ſubject to Carthage with the greateſt humanity; and having received a conſiderable number of ſoldiers from Africa, he at laſt formed an army with which he ventured a battle: in this he was defeated, and driven out of the field, with the loſs of 800 men; which obliged him to deſiſt from farther attempts of that nature.

26 Another invaſion of Sicily. Notwithſtanding all theſe terrible diſaſters, the Carthaginians could not forbear making new attempts upon the iſland of Sicily; and about the year before Chriſt 392, Mago landed in it with an army of 80,000 men. This attempt, however, was attended with no better ſucceſs than before; Dionyſius found means to reduce him to ſuch ſtraits for want of proviſions, that he was obliged to ſue for peace. This continued for nine years, at the end of which the war was renewed with various ſucceſs. It continued with little interruption till the year before Chriſt 367, when, the Syracuſian ſtate being rent by civil diſſentions, the Carthaginians thought it a proper time to exert themſelves, in order to become maſters of the whole iſland. They fitted out a great fleet, and entered into alliance with Icetas, tyrant of Leontini, who pretended to have taken Syracuſe under his protection. By this treaty, the two powers engaged to aſſiſt each other, in order to expel Dionyſius II. after which they were to divide the iſland between them. The Syracuſians applied for ſuccours to the Corinthians; and they readily ſent them a body of troops under the command of Timoleon an experienced general. By a ſtratagem, he got his forces landed at Taurominium. The whole of them did not exceed 1200 in number: yet with theſe he marched againſt Icetas, who was at the head of 5000 men; his army he ſurpriſed at ſupper, put 300 of them to the ſword, and took 600 priſoners. He then marched to Syracuſe, and broke into one part of the town before the enemy had any notice of his approach: here he took poſt, and defended himſelf with ſuch reſolution, that he could not be diſlodged by the united power of Icetas and the Carthaginians.

27 Syracuſians aſſiſted by the Corinthians.

28 Foolish conduct of the Carthaginian admiral. In this place he remained for ſome time, in expectation of a reinforcement from Corinth; till the arrival of which, he did not judge it practicable to extend his conqueſts.—The Carthaginians being appriſed that the Corinthian ſuccours were detained by tempeſtuous weather at Thurium, poſted a ſtrong ſquadron, under Hanno their admiral, to intercept them in their paſſage to Sicily. But that commander, not imagining the Corinthians would attempt a paſſage to Sicily in ſuch a ſtormy ſeaſon, left his ſtation at Thurium, and ordering his ſeamen to crown themſelves with garlands, and adorn their veſſels with bucklers both of the Greek and Carthaginian form, ſailed to Syracuſe in a triumphant manner. Upon his arrival there, he gave the troops in the citadel to underſtand, that he had taken the ſuccours Timoleon expected, thinking by this means to intimidate them to ſurrender. But, while he thus trifled away his time, the Corinthians marched with great expedition to Rhegium, and, taking the advantage of a gentle breeze, were eaſily wafted over into Sicily. Mago, the Carthaginian general, was no ſooner informed of the arrival of this reinforcement, than he was ſtruck with terror, though the whole Corinthian army did not exceed 4000 men; and, ſoon after, fearing a revolt of his mercenaries, he weighed anchor, in ſpite of all the remonſtrances of Icetas, and ſet ſail for Africa. Here he no ſooner arrived, than, overcome with grief and ſhame for his unparalleled cowardice, he laid violent hands on himſelf. His body was hung upon a gallows or croſs, in order to deter ſucceeding generals from forfeiting their honour in ſo flagrant a manner.

29 Cowardice of Mago.

30 Exploits of Timoleon. After the flight of Mago, Timoleon carried all before him. He obliged Icetas to renounce his alliance with the ſtate of Carthage, and even depoſed him, and continued his military preparations with the greateſt vigour. On the other hand, the Carthaginians prepared for the enſuing campaign with the greateſt alacrity. An army of 70,000 men was ſent over, with a fleet of 200 ſhips of war, and 1000 tranſports laden with warlike engines, armed chariots, horſes, and all other ſorts of proviſions. This immenſe multitude, however, was overthrown on the banks of the Crimeſus by Timoleon: 10,000 were left dead on the field of battle; and of theſe, above 3000 were native Carthaginians of the beſt families in the city. Above 15,000 were taken priſoners; all their baggage and proviſions, with 200 chariots, 1000 coats of mail, and 10,000 ſhields, fell into Timoleon's hands. The ſpoil, which conſiſted chiefly of gold and ſilver, was ſo immenſe, that the whole Sicilian army was three days in collecting it and ſtripping the ſlain. After this ſignal victory, he left his mercenary forces upon the frontiers of the enemy, to plunder and ravage the country; while he himſelf returned to Syracuſe with the reſt of his army, where he was received with the greateſt demonſtrations of joy. Soon after, Icetas, grown weary of his private ſtation, concluded a new peace with the Carthaginians; and, having aſſembled an army, ventured an engagement with Timoleon: but in this he was utterly defeated; and himſelf, with Eupolemus his ſon, and Euthymus general of his horſe, were brought bound to Timoleon by their own ſoldiers. The two firſt were immediately executed as tyrants and traitors, and the laſt murdered in cold blood; Icetas's wives and daughters were likewiſe cruelly put to death after a public trial. In a ſhort time after, Mamercus, another of the Carthaginian confederates, was

over

Carthage. overthrown by Timoleon, with the loſs of 2000 men. These misfortunes induced the Carthaginians to conclude a peace on the following terms: That all the Greek cities ſhould be ſet free; that the river Halycus ſhould be the boundary between the territories of both parties; that the natives of the cities ſubject to the Carthaginians ſhould be allowed to withdraw, if they pleaſed, to Syracuſe, or its dependencies, with their families and effects; and laſtly, that Carthage ſhould not, for the future, give any aſſiſtance to the remaining tyrants againſt Syracuſe.

31 Peace concluded.

32 War renewed.

About 316 years before Chriſt, we find the Carthaginians engaged in another bloody war with the Sicilians, on the following occaſion. Soſiſtratus, who had uſurped the ſupreme authority at Syracuſe, having been forced by Agathocles to raiſe the ſiege of Rhegium, returned with his ſhattered troops to Sicily. But ſoon after this unſucceſsful expedition, he was obliged to abdicate the ſovereignty and quit Syracuſe. With him were expelled above 600 of the principal citizens, who were ſuſpected of having formed a deſign to overturn the plan of government which then prevailed in the city. As Soſiſtratus and the exiles thought themſelves ill treated, they had recourſe to the Carthaginians, who readily eſpouſed their cauſe. Hereupon the Syracuſians having recalled Agathocles, who had before been baniſhed by Soſiſtratus, appointed him commander in chief of all their forces, principally on account of the known averſion he bore that tyrant. The war, however, did not then continue long; for Soſiſtratus and the exiles were quickly received again into the city, and peace was concluded with Carthage: the people of Syracuſe, however, finding that Agathocles wanted to make himſelf abſolute, exacted an oath from him, that he would do nothing to the prejudice of the democracy. But, notwithſtanding this oath, Agathocles purſued his purpoſe, and by a general maſſacre of the principal citizens of Syracuſe raiſed himſelf to the throne. For ſome time he was obliged to keep the peace he had concluded with Carthage; but at laſt finding his authority eſtabliſhed, and that his ſubjects were ready to ſecond his ambitious deſigns, he paid no regard to his treaties, but immediately made war on the neighbouring ſtates, which he had expreſsly agreed not to do, and then carried his arms into the very heart of the iſland. In theſe expeditions he was attended with ſuch ſucceſs, that in two years time he brought into ſubjection all the Greek part of Sicily. This being accompliſhed, he committed great devaſtations in the Carthaginian territories, their general Hamilcar not offering to give him the leaſt diſturbance. This perfidious conduct greatly incenſed the people of thoſe diſtricts againſt Hamilcar, whom they accuſed before the ſenate. He died, however, in Sicily; and Hamilcar the ſon of Giſco was appointed to ſucceed him in the command of the forces. The laſt place that held out againſt Agathocles was Meſſana, whither all the Syracuſian exiles had retired. Paſiphilus, Agathocles's general, found means to cajole the inhabitants into a treaty; which Agathocles, according to cuſtom, paid no regard to, but, as ſoon as he was in poſſeſſion of the town, cut off all thoſe who had oppoſed his government. For, as he intended to proſecute the war with the utmoſt vigour againſt Carthage, he thought it a point of good policy to deſtroy as many of his Sicilian enemies as poſſible.

33 Agathocles raiſes himſelf to the throne of Syracuſe.

Carthage.

The Carthaginians in the mean time having landed a powerful army in Sicily, an engagement ſoon enſued, in which Agathocles was defeated with the loſs of 7000 men. After this defeat he was obliged to ſhut himſelf up in Syracuſe, which the Carthaginians immediately inveſted, and moſt of the Greek ſtates in the iſland ſubmitted to them.

34 Defeated by the Carthaginians, and beſieged in Syracuſe.

Agathocles ſeeing himſelf ſtripped of almoſt all his dominions, and his capital itſelf in danger of falling into the hands of the enemy, formed a deſign which, were it not atteſted by writers of undoubted authority, would ſeem abſolutely incredible. This was no leſs than to tranſfer the war into Africa, and lay ſiege to the enemy's capital, at a time when he himſelf was beſieged, and only one city left to him in all Sicily. Before he departed, however, he made all the neceſſary preparations for the defence of the place, and appointed his brother Antandrus governor of it. He alſo gave permiſſion to all who were not willing to ſtand the fatigues of a ſiege to retire out of the city. Many of the principal citizens, Juſtin ſays 1600, accepted of this offer; but they were no ſooner got out of the place, than they were cut off by parties poſted on the road for that purpoſe. Having ſeized upon their eſtates, Agathocles raiſed a conſiderable ſum, which was intended in ſome meaſure to defray the expence of the expedition; however, he carried with him only 50 talents to ſupply his preſent wants, being well aſſured that he ſhould find in the enemy's country whatever was neceſſary for his ſubſiſtence. As the Carthaginians had a much ſuperior fleet, they for ſome time kept the mouth of the harbour blocked up: but at laſt a fair opportunity offered; and Agathocles hoiſting ſail, by the activity of his rowers ſoon got clear both of the port and city of Syracuſe. The Carthaginians purſued him with all poſſible expedition; but, notwithſtanding their utmoſt efforts, Agathocles got his troops landed with very little oppoſition.

35 He invades Africa.

Soon after his forces were landed, Agathocles burnt his fleet, probably that his ſoldiers might behave with the greater reſolution, as they ſaw no poſſibility of flying from their danger. He firſt advanced to a place called the Great City. This, after a feeble reſiſtance, he took and plundered. From hence he marched to Tunis, which ſurrendered on the firſt ſummons; and Agathocles levelled both places with the ground.

36 He burns his fleet.

The Carthaginians were at firſt thrown into the greateſt conſternation; but ſoon recovering themſelves, the citizens took up arms with ſo much alacrity, that in a few days they had on foot an army of 40,000 foot and 1000 horſe, with 2000 armed chariots. The command of this army they entruſted to Hanno and Bomilcar, two generals between whom there ſubſiſted a great animoſity. This occaſioned the defeat of their whole army with the loſs of their camp, though all the forces of Agathocles did not exceed 14,000 in number. Among other rich ſpoils the conqueror found many chariots of curious workmanſhip, which carried 20,000 pair of fetters and manacles that the enemy had provided for the Sicilian priſoners. After this defeat, the Carthaginians, ſuppoſing themſelves to have fallen under the diſpleaſure of their deities on account of their neglecting to ſacrifice children of noble families

37 Carthaginians defeated.

38 Their method of appeaſing their deities.

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Carthage. lies to them, reſolved to expiate this guilt. Accordingly 200 children of the firſt rank were ſacrificed to their bloody gods, beſides 300 other perſons who voluntarily offered themſelves to pacify the wrath of theſe deities.

39 Hamilcar makes an aſſault on Syracuſe.

After theſe expiations, Hamilcar was recalled from Sicily. When the meſſengers arrived, Hamilcar commanded them not once to mention the victory of Agathocles; but, on the contrary, to give out among the troops that he had been entirely defeated, his forces all cut off, and his fleet deſtroyed by the Carthaginians. This threw the Syracuſians into the utmoſt deſpair; however, one Eurymnon, an Etolian, prevailed upon Antandrus, not to conſent to a capitulation, but to ſtand a general aſſault. Hamilcar being informed of this, prepared his battering engines, and made all the neceſſary preparations to ſtorm the town without delay. But while matters remained in this ſituation, a galley, which Agathocles had cauſed to be built immediately after the battle, got into the harbour of Syracuſe, and acquainted the inhabitants with the certainty of Agathocles's victory. Hamilcar obſerving that the garriſon flocked down to the port on this occaſion, and expecting to find the walls unguarded, ordered his ſoldiers to erect ſcaling-ladders, and begin the intended aſſault. The enemy having left the ramparts quite expoſed, the Carthaginians mounted them without being diſcerned, and had almoſt poſſeſſed themſelves of an entire part lying between two towers, when the patrol diſcovered them. Upon this a warm diſpute enſued; but at laſt the Carthaginians were repulſed with loſs. Hamilcar, therefore, finding it in vain to continue the ſiege after ſuch glad tidings had reſtored life and ſoul to the Syracuſians, drew off his forces, and ſent a detachment of 5000 men to reinforce the troops in Africa. He ſtill entertained hopes, however, that he might oblige Agathocles to quit Africa, and return to the defence of his own dominions. He ſpent ſome time in making himſelf maſter of ſuch cities as ſided with the Syracuſians; and after having brought all their allies under ſubjection, returned again to Syracuſe, hoping to ſurpriſe it by an attack in the night-time. But being attacked while advancing thro' narrow paſſes, where his numerous army had not room to act, he was defeated with great ſlaughter, and himſelf taken priſoner, carried into Syracuſe, and put to death.

40 He raiſes the ſiege.

41 Is defeated, and taken priſoner and put to death.

42 Agrigentines attempt the ſovereignty of Sicily.

In the mean time the Agrigentines, finding that the Carthaginians and Syracuſians had greatly weakened each other by this war, thought it a proper opportunity to attempt the ſovereignty of the whole iſland. They therefore commenced a war againſt both parties; and proſecuted it with ſuch ſucceſs, that in a ſhort time they wreſted many places of note both out of the hands of the Syracuſians and Carthaginians.

43 Succeſs of Agathocles in Africa.

In Africa the tyrant carried every thing before him. He reduced moſt of the places of any note in the territory of Carthage; and hearing that Elymas king of Libya had declared againſt him, he immediately entered Libya Superior, and in a great battle overthrew that prince, putting to the ſword a good part of his troops, and the general who commanded them; after which he advanced againſt the Carthaginians with ſuch expedition, that he ſurpriſed and defeated them, with the loſs of 2000 killed, and a great number taken priſoners. He next prepared for the ſiege of Carthage itſelf; and in order thereto advanced to a poſt within five miles of that city. On the other hand, notwithſtanding the great loſſes they had already ſuſtained, the Carthaginians, with a powerful army, encamped between him and their capital. In this ſituation Agathocles received advice of the defeat of the Carthaginian forces before Syracuſe, and the head of Hamilcar their general. Upon this he immediately rode up to the enemy's camp, and ſhowing them the head, gave them an account of the total deſtruction of their army before Syracuſe. This threw them into ſuch conſternation, that in all human probability Agathocles would have made himſelf maſter of Carthage, had not an unexpected mutiny ariſen in his camp, which gave the Carthaginians an opportunity of recovering from their terror. Carthage.

44 He makes an alliance with Ophellas;

The year following an engagement happened, in which neither party gained any great advantage: but ſoon after, the tyrant, notwithſtanding all his victories, found himſelf unable to carry on the war alone; and therefore endeavoured to gain over to his intereſt Ophellas, one of the captains of Alexander the Great. In this he perfectly ſucceeded; and, to ſuccour his new ally the more effectually, Ophellas ſent to Athens for a body of troops. Having finiſhed his military preparations, Ophellas found his army to conſiſt of 10,000 foot and 600 horſe, all regular troops, beſides 100 chariots, and a body of 10,000 men, attended by their wives and children, as though he had been going to plant a new colony. At the head of theſe forces he continued his march towards Agathocles for 18 days; and then encamped at Automolæ, a city about 3000 ſtadia diſtant from the capital of his dominions. From thence he advanced through the Regio Syrtica; but found himſelf reduced to ſuch extremities, that his army was in danger of periſhing for want of bread, water, and other proviſions. They were alſo greatly annoyed by ſerpents and wild beaſts, with which that deſert region abounded. The ſerpents made the greateſt havock among the troops; for, being of the ſame colour with the earth, and extremely venomous, many ſoldiers, who trod upon them without ſeeing them, were ſtung to death. At laſt, after a very fatiguing march of two months, he approached Agathocles, and encamped at a ſmall diſtance from him, to the no ſmall terror of the Carthaginians, who apprehended the moſt fatal conſequences from this junction. Agathocles at firſt careſſed him, and adviſed him to take all poſſible care of his troops that had undergone ſo many fatigues; but ſoon after cut him off by treachery, and then by fair words and promiſes perſuaded his troops to ſerve under himſelf.

45 Whom he treacherouſly murders.

Agathocles now finding himſelf at the head of a numerous army, aſſumed the title of King of Africa, intending ſoon to complete his conqueſts by the reduction of Carthage. He began with the ſiege of Utica, which was taken by aſſault. After this he marched againſt Hippo Diarrhytus, the Biſerta of the moderns, which was alſo taken by ſtorm; and after this moſt of the people bordering upon the ſea-coaſts, and even thoſe who inhabited the inland parts of the country, ſubmitted to him. But in the midſt of this career of ſucceſs, the Sicilians formed an aſſociation in favour

46 Is obliged to return home.

Carthage. favour of liberty; which obliged the tyrant to return home, leaving his ſon Archagathus to carry on the war in Africa.

47 Succeſs of Archagathus. Archagathus, after his father's departure, greatly extended the African conqueſts. He ſent Eumachus at the head of a large detachment to invade ſome of the neighbouring provinces, while he himſelf, with the greateſt part of his army, obſerved the motions of the Carthaginians. Eumachus falling into Numidia, firſt took the great city of Tocas, and conquered ſeveral of the Numidian cantons. Afterwards he beſieged and took Phellina; which was attended with the ſubmiſſion of the Aſphodelodians, a nation, according to Diodorus, as black as the Ethiopians. He then reduced ſeveral cities; and being at laſt elated with ſuch a run of good fortune, reſolved to penetrate into the more remote parts of Africa. Here he at firſt met with ſucceſs; but hearing that the barbarous nations were advancing in a formidable body to give him battle, he abandoned his conqueſts, and retreated with the utmoſt precipitation towards the ſea-coaſts, after having loſt abundance of men.

48 He is reduced to the utmoſt diſtreſs. This unfortunate expedition made a great alteration for the worſe in the affairs of Archagathus. The Carthaginians being informed of Eumachus's bad ſucceſs, reſolved to exert themſelves in an extraordinary manner to repair their former loſſes. They divided their forces into three bodies: one of theſe they ſent to the ſea-coaſts, to keep the towns there in awe; another they diſpatched into the Mediterranean parts, to preſerve the allegiance of the inhabitants there; and the laſt body they ordered to the Upper Africa, to ſupport their confederates in that country. Archagathus being apprized of the motions of the Carthaginians, divided his forces likewiſe into three bodies. One of theſe he ſent to obſerve the Carthaginian troops on the ſea-coaſts, with orders to advance afterwards into the Upper Africa; another, under the command of Æſchrion, one of his generals, he poſted at a proper diſtance in the heart of the country, to have an eye both on the enemy there and the barbarous nations; and with the laſt, which he led in perſon, he kept nearer Carthage, preſerving a communication with the other two, in order to ſend them ſuccours, or recal them, as the exigency of affairs ſhould require.—The Carthaginian troops ſent into the heart of the country, were commanded by Hanno, a general of great experience, who being informed of the approach of Æſchrion, laid an ambuſcade for him, into which he was drawn and cut off with 4000 foot and 200 horſe. Himilco, who commanded the Carthaginian forces in Upper Africa, having advice of Eumachus's march, immediately advanced againſt him. An engagement enſued, in which the Greeks were almoſt totally cut off, or periſhed with thirſt after the battle, out of 8000 foot only 30, and of 800 horſe only 40, having the good fortune to make their eſcape.

Archagathus receiving the melancholy news of theſe two defeats, immediately called in the detachments he had ſent out to haraſs the enemy, which would otherwiſe have been inſtantly cut off. He was, however, in a ſhort time hemmed in on all ſides in ſuch a manner as to be reduced to the laſt extremity for want of proviſions, and ready every moment to be ſwallowed up by the numerous forces which ſurrounded him. In this deplorable ſituation Agathocles received an expreſs from Archagathus, acquainting him of the loſſes he had ſuſtained and the ſcarcity of proviſions he laboured under. Upon this the tyrant, leaving the care of the Sicilian war to one Leptines, by a ſtratagem got 18 Etruſcan ſhips that came to his aſſiſtance out of the harbour; and then engaging the Carthaginian ſquadron which lay in its neighbourhood, took five of their ſhips, and made all their men priſoners. By this means he became maſter of the port, and ſecured a paſſage into it for the merchants of all nations, which ſoon reſtored plenty to that city, where the famine before had begun to make great havock. Supplying himſelf, therefore, with a ſufficient quantity of neceſſaries for the voyage he was going to undertake, he immediately ſet ſail for Africa. Carthage.

49 Agathocles arrives in Africa. Upon his arrival in this country, Agathocles reviewed his forces, and found them to conſiſt of 6000 Greeks, as many Samnites, Celtes, and Etruſcans; beſides 10,000 Africans, and 1500 horſe. As he found his troops almoſt in a ſtate of deſpair, he thought this a proper time for offering the enemy battle. The Carthaginians, however, did not think proper to accept the challenge; eſpecially as by keeping cloſe in their camp, where they had plenty of every thing, they could ſtarve the Greeks to a ſurrender without ſtriking a ſtroke.

50 Attacks the camp of the enemy without ſucceſs. Upon this Agathocles attacked the Carthaginian camp with great bravery, made a conſiderable impreſſion upon it, and might perhaps have carried it, had not his mercenaries deſerted him almoſt at the firſt onſet. By this piece of cowardice he was forced to retire with precipitation to his camp, whither the Carthaginians purſued him very cloſely, doing great execution in the purſuit.

51 Diſaſter in the Carthaginian camp. The next night, the Carthaginians ſacrificed all the priſoners of diſtinction as a grateful acknowledgment to the gods for the victory they had gained. While they were employed in this inhuman work, the wind, ſuddenly riſing, carried the flames to the ſacred tabernacle near the altar, which was entirely conſumed, as well as the general's tent, and thoſe of the principal officers adjoining to it. A dreadful alarm took place through the whole camp, which was heightened by the great progreſs the fire made. For the ſoldiers tents conſiſting of very combuſtible materials, and the wind blowing in a moſt violent manner, the whole camp was almoſt entirely laid in aſhes; and many of the ſoldiers endeavouring to carry off their arms, and the rich baggage of their officers, periſhed in the flames. Some of thoſe who made their eſcape met with a fate equally unhappy: For, after Agathocles had received the laſt blow, the Africans deſerted him, and were in that inſtant coming over in a body to the Carthaginians. Theſe, the perſons who were flying from the flames took to be the whole Syracuſian army advancing in order of battle to attack their camp. Upon this a dreadful confuſion enſued. Some took to their heels; others fell down in heaps one upon another; and others engaged their comrades, miſtaking them for the enemy. Five thouſand men loſt their lives in this tumult, and the reſt thought proper to take refuge within the walls of Carthage; nor could the appearance of day-light, for ſome time, diſſipate

Carthage. ſipate their terrible apprehenſions. In the mean time, the African deſerters, obſerving the great confuſion the Carthaginians were in, and not knowing the meaning of it, were ſo terrified, that they thought proper to return to the place from whence they came. The Syracuſians ſeeing a body of troops advancing towards them in good order, concluded that the enemy were marching to attack them, and therefore immediately cried out "To arms." The flames aſcending out of the Carthaginian camp into the air, and the lamentable outcries proceeding from thence, confirmed them in this opinion, and greatly heightened their confuſion. The conſequence was much the ſame as in the Carthaginian camp; for coming to blows with one another inſtead of the enemy, they ſcarce recovered their ſenſes upon the return of light, and the inteſtine fray was ſo bloody, that it coſt Agathocles 4000 men.

52 Another in that of Agathocles.

53 He eſcapes privately.

This laſt diſaſter ſo diſheartened the tyrant, that he immediately ſet about contriving means for making his eſcape privately; and this he at laſt, though with great difficulty, effected. After his departure, his two ſons were immediately put to death by the ſoldiers, who, chooſing a leader from among themſelves, made peace with the Carthaginians upon the following conditions: 1. That the Greeks ſhould deliver up all the places they held in Africa, receiving from them 300 talents; 2. That ſuch of them as were willing to ſerve in the Carthaginian army ſhould be kindly treated, and receive the uſual pay; and, 3. That the reſt ſhould be tranſported to Sicily, and have the city of Selinus for their habitation.

54 Cauſes of the firſt Punic War.

From this time, to that of their firſt war with the Romans, we find nothing remarkable in the hiſtory of the Carthaginians. The firſt Punic war, as it is commonly called, happened about 256 years before Chriſt. At that time, the Carthaginians were poſſeſſed of extenſive dominions in Africa; they had made conſiderable progreſs in Spain; were maſters of Sardinia, Corſica, and all the iſlands on the coaſt of Italy; and had extended their conqueſts to a great part of Sicily. The occaſion of the firſt rupture between the two republics was as follows. The Mamertines being vanquiſhed in battle, and reduced to great ſtraits by Hiero king of Syracuſe, had reſolved to deliver up Meſſina, the only city they now poſſeſſed, to that prince, with whoſe mild government and ſtrict probity they were well acquainted. Accordingly, Hiero was advancing at the head of his troops to take poſſeſſion of the city, when Hannibal, who at that time commanded the Carthaginian army in Sicily, prevented him by a ſtratagem. He came to meet Hiero, as it were to congratulate him on his victory; and amuſed him, while ſome of the Carthaginian troops filed off towards Meſſina. Hereupon the Mamertines, ſeeing their city ſupported by a new reinforcement, were divided into ſeveral opinions. Some were for accepting the protection of Carthage; others were for ſurrendering to the king of Syracuſe; but the greater part were for calling in the Romans to their aſſiſtance. Deputies were accordingly diſpatched to Rome, offering the poſſeſſion of the city to the Romans, and in the moſt moving terms imploring protection. This, after ſome debate, was agreed to; and the conſul Appius Claudius received orders to attempt a paſſage to Sicily, at the head of a powerful army. Being obliged to ſtay ſome time at Rome, however, one Caius Claudius, a perſon of great intrepidity and reſolution, was diſpatched with a few veſſels to Rhegium. On his arrival there, he obſerved the Carthaginian ſquadron to be ſo much ſuperior to his own, that he thought it would be little better than madneſs to attempt at that time to tranſport forces to Sicily. He croſſed the ſtraits, however, and had a conference with the Mamertines, in which he prevailed upon them all to accept of the protection of Rome; and on this he made the neceſſary preparations for tranſporting his forces. The Carthaginians being informed of the reſolutions of the Romans, ſent a ſtrong ſquadron of gallies under the command of Hanno, to intercept the Roman fleet; and accordingly the Carthaginian admiral, coming up with them near the coaſt of Sicily, attacked them with great fury. During the engagement, a violent ſtorm aroſe, which daſhed many of the Roman veſſels againſt the rocks, and did a vaſt deal of damage to their ſquadron; by which means Claudius was forced to retire to Rhegium, and this he accompliſhed with great difficulty. Hanno reſtored all the veſſels he had taken; but ordered the deputies ſent with them, to expoſtulate with the Roman general upon the infraction of the treaties ſubſiſting between the two republics. This expoſtulation, however juſt, produced an open rupture; Claudius ſoon after poſſeſſing himſelf of Meſſina. Carthage.

55 Hanno intercepts the Roman fleet.

56 Carthaginians and Syracuſians defeated by the Romans.

Such was the beginning of the firſt Punic war, which is ſaid to have laſted 24 years. The firſt year, the Carthaginians and Syracuſians laid ſiege to Meſſina; but, not acting in concert as they ought to have done, were overthrown by the Conſul Appius Claudius; and this defeat ſo much diſguſted Hiero with the Carthaginians, that he ſoon after concluded an alliance with the Romans. After this treaty, having no enemy to contend with but the Carthaginians, the Romans made themſelves maſters of all the cities on the weſtern coaſt of Sicily, and at the end of the campaign carried back moſt of their troops with them to take up their winter-quarters in Italy.

57 Agrigentum taken by the Romans.

The ſecond year, Hanno the Carthaginian general fixed his principal magazine at Agrigentum. This place was very ſtrong by nature, had been rendered almoſt impregnable by the new fortifications raiſed by the Carthaginians during the preceding winter, and was defended by a numerous garriſon commanded by one Hannibal, a general of great experience in war. For five months the Romans attempted to reduce the place by famine, and had actually brought the inhabitants to great diſtreſs, when a Carthaginian army of 50,000 foot, 6000 horſe, and 60 elephants, landed at Lilybæum, and from thence marched to Heraclea, within 20 miles of Agrigentum. There the general received a deputation from ſome of the inhabitants of Erbeſſa, where the Romans had their magazines, offering to put the town into his hands. It was accordingly delivered up; and by this means the Romans became ſo much diſtreſſed; that they had certainly been obliged to abandon their enterprize, had not Hiero ſupplied them with proviſions. But all the aſſiſtance he was able to give could not long have ſupported them,

Carthage. them, as their army was ſo much weakened by diſorders occaſioned by famine, that, out nf 100,000 men of whom it originally conſiſted, ſcarce a fourth part remained fit for ſervice, and could no longer ſubſiſt on ſuch parſimonious ſupplies. But in the mean time Hannibal acquainted Hanno that the city was reduced to the utmoſt diſtreſs; upon which he reſolved to venture an engagement, which he had before declined. In this the Romans were victorious, and the city ſurrendered at diſcretion, though Hannibal with the greateſt part of the garriſon made their eſcape. This ended the campaign; and the Carthaginians being greatly chagrined at their bad ſucceſs, fined Hanno of an immenſe ſum of money, and deprived him of his command, appointing Hamilcar to ſucceed him in the command of the land army, and Hannibal in that of the fleet.

The third year, Hannibal received orders to ravage the coaſts of Italy; but the Romans had taken care to poſt detachments in ſuch places as were moſt proper to prevent his landing, ſo that the Carthaginian found it impoſſible to execute his orders. At the ſame time, the Romans, perceiving the advantages of being maſters of the ſea, ſet about building 120 galleys. While this was doing, they made themſelves maſters of moſt of the inland cities, but the Carthaginians reduced or kept ſteady in their intereſt moſt of the maritime ones; ſo that both parties were equally ſucceſsful during this campaign.

58 They build a fleet,

The fourth year, Hannibal by a ſtratagem made himſelf maſter of 17 Roman galleys; after which he committed great ravages on the coaſt of Italy, whither he had advanced to take a view of the Roman fleet. But he was afterwards attacked in his turn, loſt the greateſt part of his ſhips, and with great difficulty made his own eſcape. Soon after he was totally defeated by the conſul Duillius, with the loſs of 80 ſhips taken, thirteen ſunk, 7000 men killed, and as many taken priſoners. After this victory Duillius landed in Sicily, put himſelf at the head of the land forces, relieved Segeſta beſieged by Hamilcar, and made himſelf maſter of Macella, though defended by a numerous garriſon.

59 And defeat the Carthaginians at ſea.

60 Sicilians defeated by the Carthaginians.

The fifth year, a difference aroſe between the Romans and their Sicilian allies, which came to ſuch an height, that they encamped ſeparately. Of this Hamilcar availed himſelf, and attacking the Sicilians in their entrenchments, put 4000 of them to the ſword. He then drove the Romans from their poſts, took ſeveral cities from them, and over-ran the greateſt part of the country. In the mean time, Hannibal, after his defeat, failed with the ſhattered remains of his fleet to Carthage: but in order to ſecure himſelf from puniſhment, he ſent one of his friends with all ſpeed, before the event of the battle was known there, to acquaint the ſenate, that the Romans had put to ſea with a good number of heavy ill-built veſſels, each of them carrying ſome machine, the uſe of which the Carthaginians did not underſtand; and aſked whether it was the opinion of the ſenate that Hannibal ſhould attack them. Theſe machines were the *corvi*, which were then newly invented, and by means of which, chiefly, Duillius had gained the victory. The ſenate were unanimous in their opinion, that the Romans ſhould be attacked; upon which the meſſenger acquainted them with the unfortunate event of the battle. As the ſenators had already declared themſelves for the engagement, they ſpared their general's life, and, according to Polybius, even continued him in the command of the fleet. In a ſhort time, being reinforced by a good number of galleys, and attended by ſome officers of great merit, he ſailed for the coaſt of Sardinia. He had not been long here, before he was ſurpriſed by the Romans, who carried off many of his ſhips, and took great numbers of his men priſoners. This ſo inceuſed the reſt, that they ſeized their unfortunate admiral, and crucified him; but who was his immediate ſucceſſor does not appear. Carthage.

61 Corſica and Sardinia reduced by the Romans.

The ſixth year, the Romans made themſelves maſters of the iſlands of Corſica and Sardinia. Hanno, who commanded the Carthaginian forces in the latter, defended himſelf at a city called Olbia with incredible bravery; but being at laſt killed in one of the attacks, the place was ſurrendered, and the Romans ſoon became maſters of the whole iſland.

62 The Roman army in great danger.

The ſeventh year, the Romans took the town of Myteſtratum, in Sicily, from whence they marched towards Camarina, but in their way were ſurrounded in a deep valley, and in the moſt imminent danger of being cut off by the Carthaginian army. In this extremity, a legionary tribune, by name *M. Calpurnius Flamma*, deſired the general to give him 300 choſen men; promiſing, with this ſmall company, to find the enemy ſuch employment as ſhould oblige them to leave a paſſage open for the Roman army. He performed his promiſe with a bravery truly heroic; for, having ſeized, in ſpite of all oppoſition, an eminence, and entrenched himſelf on it, the Carthaginians, jealous of his deſign, flocked from all quarters to drive him from his poſt. But the brave tribune kept their whole army in play, till the conſul, taking advantage of the diverſion, drew his army out of the bad ſituation in which he had imprudently brought it. The legions were no ſooner out of danger, than they haſtened to the relief of their brave companions: but all they could do was to ſave their bodies from the inſults of their enemies; for they found them all dead on the ſpot, except Calpurnius, who lay under an heap of dead bodies all covered with wounds, but ſtill breathing. His wounds were immediately dreſſed, and it fortunately happened that none of them proved mortal; and for this glorious enterpriſe he received a crown of *gramen*. After this the Romans reduced ſeveral cities, and drove the enemy quite out of the territory of the Agrigentines; but were repulſed with great loſs before Lipara.

63 Reſcued by the bravery of a legionary tribune.

64 Carthaginians defeated at ſea by the Romans.

The eighth year, Regulus, who commanded the Roman fleet, obſerving that of the Carthaginians lying along the coaſt in diſorder, ſailed with a ſquadron of ten galleys to obſerve their number and ſtrength, ordering the reſt of the fleet to follow him with all expedition. But as he drew too near the enemy, he was ſurrounded by a great number of Carthaginian galleys. The Romans fought with their uſual bravery; but, being overpowered with numbers, were obliged to yield. The conſul, however, found means to make his eſcape, and join the reſt of the fleet; and then had his full revenge of the enemy, 18 of their ſhips being taken, and eight ſunk.

The ninth year, the Romans made preparations for invading

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Carthage. invading Africa. Their fleet for this purpoſe conſiſted of 330 galleys, each of them having on board 120 ſoldiers and 300 rowers. The Carthaginian fleet conſiſted of 360 ſail, and was much better manned than that of the Romans. The two fleets met near Eenomus, a promontory in Sicily; where, after a bloody engagement which laſted the greater part of the day, the Carthaginians were entirely defeated, with the loſs of 30 galleys ſunk, and 63 taken with all their men. The Romans loſt only 24 galleys, which were all ſunk.—After this victory, the Romans having refitted their fleet, ſet ſail for the coaſt of Africa with all expedition. The firſt land they got ſight of was Cape Hermea, where the fleet lay at anchor for ſome time waiting till the galleys and tranſports came up. From thence they coaſted along till they arrived before Clupea, a city to the eaſt of Carthage, where they made their firſt deſcent.

65. Regulus invades Africa.

66. Carthaginians in great conſternation.

No words can expreſs the conſternation of the Carthaginians, on the arrival of the Romans in Africa. The inhabitants of Clupea were ſo terrified, that, according to Zonaras, they abandoned the place, which the Romans immediately took poſſeſſion of. Having left there a ſtrong garriſon to ſecure their ſhipping, and keep the adjacent territory in awe, they moved nearer Carthage, taking a great number of towns; they likewiſe plundered a prodigious number of villages, laid vaſt numbers of noblemens ſeats in aſhes, and took above 20,000 priſoners. In ſhort, having plundered and ravaged the whole country, almoſt to the gates of Carthage, they returned to Clupea loaden with the immenſe booty they had acquired in the expedition.

67 Succeſs of Regulus.

The tenth year, Regulus puſhed on his conqueſts with great rapidity. To oppoſe his progreſs, Hamilcar was recalled from Sicily, and with him Boſtar and Aſdruhal were joined in command. Hamilcar commanded an army juſt equal to that of Regulus. The other two commanded ſeparate bodies, which were to join him or act apart as occaſion required. But, before they were in a condition to take the field, Regulus, purſuing his conqueſts, arrived on the banks of the *Bragada*, a river which empties itſelf into the ſea at a ſmall diſtance from Carthage. Here he had a monſtrous ſerpent to contend with, which, according to the accounts of thoſe days, infected the waters of the river, poiſoned the air, and killed all other animals with its breath alone. When the Romans went to draw water, this huge dragon attacked them; and, twiſting itſelf round their bodies, either ſqueezed them to death, or ſwallowed them alive. As its hard and thick ſcales were proof againſt their darts and arrows, they were forced to have recourſe to the baliſtæ, which they made uſe of in ſieges to throw great ſtones, and to beat down the walls of beſieged cities. With theſe they diſcharged ſhowers of huge ſtones againſt this new enemy, and had the good luck, with one of them, to break his back-bone; which diſabled him from twiſting and winding his immenſe body, and by that means gave the Romans an opportunity of approaching and diſpatching him with their darts. But his dead body corrupted the air and the water of the river; and ſpread ſo great an infection over the whole country, that the Romans were obliged to decamp. We are told that Regulus ſent to Rome the ſkin of this monſter, which was 120 feet long; and that it was hung up in a temple, where it was preſerved to the time of the Numantine war. Carthage.

68 He kills a monſtrous ſerpent.

69 Defeats the Carthaginians;

Having paſſed this river, he beſieged *Adis*, or *Adda*, not far from Carthage, which the enemy attempted to relieve; but as they lay encamped among hills and rocks, where their elephants, in which the main ſtrength of their army conſiſted, could be of no uſe, Regulus attacked them in their camp, killed 17,000 of them, and took 5000 priſoners, and 18 elephants. Upon the fame of this victory, deputations came from all quarters, inſomuch that the conqueror in a few days became maſter of 80 towns; among which were the city and port of Utica. This increaſed the alarm at Carthage; which was reduced to deſpair, when Regulus laid ſiege to Tunis, a great city about nine miles from the capital. The place was taken in ſight of the Carthaginians, who, from their walls, beheld all the operations of the ſiege, without making the leaſt attempt to relieve it. And to complete their misfortunes, the Numidians, their neighbours, and implacable enemies, entered their territories, committing every where the moſt dreadful devaſtations, which ſoon occaſioned a great ſcarcity of proviſions in the city. The public magazines were ſoon exhauſted: and, as the city was full of ſelfiſh merchants, who took advantage of the public diſtreſs, to ſell proviſions at an exorbitant price, a famine enſued, with all the evils which attend it.

70 And reduces them to the utmoſt deſpair.

71 His propoſals of peace rejected.

In this extremity Regulus advanced to the very gates of Carthage; and having encamped under the walls, ſent deputies to treat of a peace with the ſenate. The deputies were received with inexpreſſible joy; but the conditions they propoſed were ſuch that the ſenate could not hear them without the greateſt indignation, They were, 1. That the Carthaginians ſhould relinquiſh all claims to Sardinia, Corſica, and Sicily. 2. That they ſhould reſtore to the Romans all the priſoners they had taken from them ſince the beginning of the war. 3. That if they cared to redeem any of their own priſoners, they ſhould pay ſo much a-head for them as Rome ſhould judge reaſonable. 4. That they ſhould for ever pay the Romans an annual tribute. 5. That for the future they ſhould fit out but one man of war for their own uſe, and 50 triremes to ſerve in the Roman fleet, at the expence of Carthage, when required by any of the future conſuls. Theſe extravagant demands provoked the ſenators, who loudly and unanimouſly rejected them; the Roman deputies, however, told them that Regulus would not alter a ſingle letter of the propoſals, and that they muſt either conquer the Romans or obey them.

72 Xanthippus appointed to command the Carthaginian army.

In this extreme diſtreſs, ſome mercenaries arrived from Greece, among whom was a Lacedemonian, by name Xanthippus, a man of great valour and experience in war. This man, having informed himſelf of the circumſtances of the late battle, declared publicly, that their overthrow was more owing to their own miſconduct than to the ſuperiority of the enemy. This diſcourſe being ſpread abroad, came at laſt to the knowledge of the ſenate; and by them, and even by the deſire of the Carthaginian generals themſelves, Xanthippus was appointed commander in chief of their forces. His firſt care was to diſcipline his troops in a proper

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Carthage. proper manner. He taught them how to march, encamp, widen and close their ranks, and rally after the Lacedemonian manner under their proper colours. He then took the field with 12,000 foot, 4000 horse, and 100 elephants. The Romans were surprised at the sudden alteration they observed in the enemy's conduct; but Regulus, elated with his last success, came and encamped at a small distance from the Carthaginian army in a vast plain, where their elephants and horse had room to act. The two armies were parted by a river, which Regulus boldly passed, by which means he left no room for a retreat in case of any misfortune. The engagement began with great fury; but ended in the total defeat of the Romans, who, except 2000 that escaped to Clupea, were all killed or taken prisoners, and among the latter was Regulus himself. The loss of the Carthaginians scarce exceeded 800 men.

73 The Romans utterly defeated, and Regulus taken.

The Carthaginians remained on the field of battle till they had stripped the slain; and then entered their metropolis, which was almost the only place left them, in great triumph. They treated all their prisoners with great humanity, except Regulus; but as for him, he had so insulted them in his prosperity, that they could not forbear shewing the highest marks of their resentment. According to Zonaras and others, he was thrown into a dungeon, where he had only sustenance allowed him barely sufficient to keep him alive. Nay, his cruel masters, to heighten his other torments, ordered an huge elephant (at the sight of which animal, it seems, he was greatly terrified) to be constantly placed near him; which prevented him from enjoying any tranquillity or repose.

74 He is cruelly used.

75 Carthaginians defeated by sea and land.

The eleventh year of this war, the Carthaginians, elated with their victory over Regulus, began to talk in a very high strain, threatening Italy itself with an invasion. To prevent this, the Romans took care to garrison all their maritime towns, and fitted out a new fleet. In the mean time, the Carthaginians besieged Clupea and Utica in vain, being obliged to abandon their enterprize, upon hearing that the Romans were equipping a fleet of 350 sail. The Carthaginians having with incredible expedition refitted their old vessels, and built a good number of new ones, met the Roman fleet off Cape Hermea. An engagement ensued, in which the Carthaginians were utterly defeated; 104 of their ships being sunk, 30 taken, and 15,000 of their soldiers and rowers killed in the action. The Romans pursued their course to Clupea, where they were no sooner landed, than they found themselves attacked by the Carthaginian army, under the two Hanno's, father and son. But, as the brave Xanthippus no longer commanded their army, notwithstanding the Lacedemonian discipline he had introduced among them, they were routed at the very first onset, with the loss of 9000 men, and among them many of their chief lords.

76 Romans obliged to abandon Africa.

Notwithstanding all their victories, however, the Romans found themselves now obliged, for want of provisions, to evacuate both Clupea and Utica, and abandon Africa altogether. Being desirous of signalizing the end of their consulate by some important conquest on Sicily, the consuls steered for that island, contrary to the advice of their pilots, who represented their danger, on account of the season being so far advanced. Their obstinacy proved the destruction of Carthage. the whole fleet; for a violent storm arising, out of 370 vessels, only 80 escaped shipwreck, the rest being swallowed up by the sea, or dashed against the rocks. This was by far the greatest loss that Rome had ever sustained; for besides the ships that were cast away with their crews, a numerous army was destroyed, with all the riches of Africa, which had been by Regulus amassed and deposited in Clupea, and were now from thence transporting to Rome. The whole coast from Pachinum to Camerina was covered with dead bodies and wrecks of ships; so that history can scarce afford an example of such a dreadful disaster.

77 Their fleet totally destroyed by a storm.

The twelfth year, the Carthaginians hearing of this misfortune of the Romans, renewed the war in Sicily with fresh fury, hoping the whole island, which was now left defenceless, would fall into their hands. Carthalo, a Carthaginian commander, besieged and took Agrigentum. The town he laid in ashes and demolished the walls, obliging the inhabitants to fly to Olympium. Upon the news of this success, Asdrubal was sent to Sicily with a large reinforcement of troops, and 150 elephants. They likewise fitted out a squadron, with which they retook the island of Cosyra, and marched a strong body of forces into Mauritania and Numidia, to punish the people of those countries for shewing a disposition to join the Romans. In Sicily the Romans possessed themselves of Cephalodium and Panormus, but were obliged by Carthalo to raise the siege of Drepanum with great loss.

78 Agrigentum taken and destroyed by the Carthaginians.

The 13th year, the Romans sent out a fleet of 260 galleys, which appeared off Lilybæum in Sicily; but finding this place too strong, they steered from thence to the eastern coast of Africa, where they made several descents, surprised some cities, and plundered several towns and villages. They arrived safe at Panormus, and in a few days set sail for Italy, having a fair wind till they came off Cape Palinurus, where so violent a storm overtook them, that 160 of their galleys and a great number of their transports were lost; upon which the Roman senate made a decree, that, for the future, no more than 50 vessels should be equipped; and that these should be employed only in guarding the coast of Italy, and transporting the troops into Sicily.

79 The Romans fit out a new fleet;

80 Which is again destroyed.

The 14th year, the Romans made themselves masters of Himera and Lipara in Sicily; and the Carthaginians conceiving new hopes of conquering that island, began to make fresh levies in Gaul and Spain, and to equip a new fleet. But their treasures being exhausted, they applied to Ptolemy king of Egypt, intreating him to lend them 2000 talents: but he being resolved to stand neuter, refused to comply with their request; telling them, that he could not without breach of fidelity assist one friend against another. However, the republic of Carthage making an effort, equipped a fleet of 200 sail, and raised an army of 30,000 men, horse and foot, and 140 elephants, appointing Asdrubal commander in chief both of the fleet and army. The Romans then finding the great advantages of a fleet, resolved to equip one notwithstanding all former disasters; and while the vessels were building, two consuls were chosen, men of valour and experience, to supersede the acting ones in Sicily. Metellus, however, one of the former consuls, being continued with the title of proconsul, found

81 They fit out another.

means

Carthage.

means to draw Aſdrubal into a battle on diſadvantageous terms near Panormus, and then ſallying out upon him, gave him a moſt terrible overthrow. Twenty thouſand of the enemy were killed, and many elephants. An hundred and four elephants were taken with their leaders, and ſent to Rome, where they were hunted and put to death in the circus

82 Carthaginians utterly defeated.

83 Lilybæum beſieged by the Romans.

The 15th year, the Romans beſieged Lilybæum; and the ſiege continued during the reſt of the firſt Punic war, and was the only thing remarkable that happened during that time*. The Carthaginians, on the firſt news of its being beſieged, ſent Regulus with ſome deputies to Rome to treat of a peace: but inſtead of forwarding the negociation, he hindered it; and notwithſtanding he knew the torments prepared for him at Carthage, could not be prevailed upon to ſtay at Rome, but returning to his enemies country, was put to a moſt cruel death. During this ſiege, the Roman fleet under Claudius Pulcher was utterly defeated by Adherbal the Carthaginian admiral. Ninety of the Roman galleys were loſt in the action, 8000 of their men either killed or drowned, and 20,000 taken and ſent priſoners to Carthage; and the Carthaginians gained this ſignal victory without the loſs of a ſingle ſhip, or even a ſingle man. Another Roman fleet met with a ſtill ſeverer fate. It conſiſted of 120 galleys, 800 tranſports, and was laden with all ſorts of military ſtores and proviſions. Every one of theſe veſſels were loſt by a ſtorm, with all they contained, not a ſingle plank being ſaved that could be uſed again; ſo that the Romans found themſelves once more deprived of their whole naval force.

* See *Lilybæum*.

84 They are defeated at ſea by the Carthaginians.

85 A Roman fleet utterly deſtroyed by a ſtorm.

86 Hamilcar Barcas ſent into Sicily.

In the mean time, the Carthaginian ſoldiery having ſhown a diſpoſition to mutiny, the ſenate ſent over Hamilcar Barcas, father of the famous Hannibal, to Sicily. He received a charte blanche from the ſenate to act as he thought proper; and by his excellent conduct and reſolution, ſhowed himſelf the greateſt general of his age. He defended Eryx, which he had taken by ſurpriſe, with ſuch vigour, that the Romans would never have been able to make themſelves maſters of it, had they not fitted out a new fleet at the expence of private citizens, which, having utterly defeated that of the Carthaginians, Hamilcar, notwithſtanding all his valour, was obliged to yield up the place which he had ſo long and ſo bravely defended. The following articles of a peace were immediately drawn up between the two commanders. 1. The Carthaginians ſhall evacuate all the places which they have in Sicily, and entirely quit that iſland. 2. They ſhall, in 20 years, pay the Romans, at equal payments every year, 2200 talents of ſilver, that is, L. 437,850 Sterling. 3. They ſhall reſtore the Roman captives and deſerters without ranſom, and redeem their own priſoners with money. 4 They ſhall not make war upon Hiero king of Syracuſe, or his allies. Theſe articles being agreed to, Hamilcar ſurrendered Eryx upon condition that all his ſoldiers ſhould march out with him upon his paying for each of them 18 *Roman denarii*. Hoſtages were given on both ſides, and deputies were ſent to Rome to procure a ratification of the treaty by the ſenate. After the ſenators had thoroughly informed themſelves of the ſtate of affairs, two more articles were added, viz. 1. That 1000 talents ſhould be paid immediately, and the 2200 in the ſpace of 10 years at equal payments. 2. That the Carthaginians ſhould quit all the little iſlands about Italy and Sicily, and never more come near them with ſhips of war, or raiſe mercenaries in thoſe places. Neceſſity obliged Hamilcar to conſent to theſe terms; but he returned to Carthage with an hatred to the Romans, which he did not even ſuffer to die with him, but tranſmitted to his ſon the great Hannibal.

87 Peace with the Romans.

Carthage.

88 Cauſes of the war with the mercenaries.

The Carthaginians were no ſooner got out of this bloody and expenſive war, than they found themſelves engaged in another which was like to have proved fatal to them. It is called by ancient hiſtorians the *Libyan war*, or the *war with the mercenaries*. The principal occaſion of it was, that when Hamilcar returned to Carthage, he found the republic ſo much impoveriſhed, that, far from being able to give theſe troops the largeſſes and rewards promiſed them, it could not pay them their arrears. He had committed the care of tranſporting them to one *Giſco*, who, being an officer of great penetration, as though he had foreſeen what would happen, did not ſhip them off all at once, but in ſmall and ſeparate parties, that thoſe who came firſt might be paid off and ſent home before the arrival of the reſt. The Carthaginians at home, however, did not act with the ſame prudence. As the ſtate was almoſt entirely exhauſted by the laſt war, and the immenſe ſum of money, in conſequence of the peace, paid to the Romans, they judged it would be a laudable action to ſave ſomething to the public. They did not therefore pay off the mercenaries in proportion as they arrived, thinking it more proper to wait till they all came together, with a view of obtaining ſome remiſſion of their arrears. But being ſoon made ſenſible of their wrong conduct on this occaſion, by the frequent diſorders theſe barbarians committed in the city, they with ſome difficulty prevailed upon the officers to take up their quarters at Sicca, and canton their troops in that neighbourhood. To induce them to this, however, they gave them a ſum of money for their preſent ſubſiſtence, and promiſed to comply with their pretenſions when the remainder of their troops arrived from Sicily. Here, being wholly immerſed in idleneſs, to which they had long been ſtrangers, a neglect of diſcipline enſued, and of courſe a petulant and licentious ſpirit immediately took place. They were now determined not to acquieſce in receiving their bare pay, but to inſiſt upon the rewards Hamilcar had promiſed them, and even to compel the ſtate of Carthage to comply with their demands by force of arms. The ſenate being informed of the mutinous diſpoſition of the ſoldiery, diſpatched Hanno, one of the ſuffetes, to pacify them. Upon his arrival at Sicca, he expatiated largely upon the poverty of the ſtate, and the heavy taxes with which the citizens of Carthage were loaded; and therefore, inſtead of anſwering their high expectations, he deſired them to be ſatisfied with receiving part of their pay, and remit the remainder to ſerve the preſſing exigencies of the republic. The mercenaries being highly provoked, that neither Hamilcar, nor any other of the principal officers who commanded them in Sicily, and were the beſt judges of their merit, made their appearance on this occaſion, but only Hanno, a perſon utterly unknown, and above all others

89 Imprudent conduct of Hanno.

Carthage. others utterly diſagreeable to them, immediately had recourſe to arms. Aſſembling therefore in a body to the number of 20,000, they advanced to Tunis, and immediately encamped before that city.

The Carthaginians being greatly alarmed at the approach of ſo formidable a body to Tunis, made large conceſſions to the mercenaries, in order to bring them back to their duty: but, far from being ſoftened, they grew more inſolent upon theſe conceſſions, taking them for the effects of fear; and therefore were altogether averſe to thoughts of accommodation. The Carthaginians, making a virtue of neceſſity, ſhowed a diſpoſition to ſatisfy them in all points, and agreed to refer themſelves to the opinion of ſome general in Sicily, which they had all along deſired; leaving the choice of ſuch commander entirely to them. Giſco was accordingly pitched upon to mediate this affair, the mercenaries believing Hamilcar to have been a principal cauſe of the ill treatment they met with, ſince he never appeared among them, and, according to the general opinion, had voluntarily reſigned his commiſſion. Giſco ſoon arrived at Tunis with money to pay the troops; and after conferring with the officers of the ſeveral nations apart, he harangued them in ſuch a manner, that a treaty was upon the point of being concluded, when Spendius and Mathos, two of the principal mutineers, occaſioned a tumult in every part of the camp. Spendius was by nation a Campanian, who had been a ſlave at Rome, and had fled to the Carthaginians. The apprehenſions he was under of being delivered to his old maſter, by whom he was ſure to be hanged or crucified, prompted him to break off the accommodation. Mathos was an African, and free born; but as he had been active in raiſing the rebellion, and was well acquainted with the implacable diſpoſition of the Carthaginians, he knew that a peace muſt infallibly prove his ruin. He therefore joined with Spendius, and inſinuated to the Africans the danger of concluding a treaty at that juncture, but which could not leave them ſingly expoſed to the rage of the Carthaginians. This ſo incenſed the Africans, who were much more numerous than the troops of any other nation, that they immediately aſſembled in a tumultuous manner. The foreigners ſoon joined them, being inſpired by Spendius with an equal degree of fury. Nothing was now to be heard but the moſt horrid oaths and imprecations againſt Giſco and the Carthaginians. Whoever offered to make any remonſtrance, or lend an ear to temperate counſels, was ſtoned to death by the enraged multitude. Nay, many perſons loſt their lives barely for attempting to ſpeak, before it could be known whether they were in the intereſt of Spendius or the Carthaginians.

In the midſt of theſe commotions, Giſco behaved with great firmneſs and intrepidity. He left no methods untried to ſoften the officers and calm the minds of the ſoldiery; but the torrent of ſedition was now ſo ſtrong, that there was no poſſibility of keeping it within bounds. They therefore ſeized upon the military cheſt, dividing the money among themſelves in part of their arrears, put the perſon of Giſco under an arreſt, and treated him as well as his attendants with the utmoſt indignity. Mathos and Spendius, to deſtroy the remoteſt hopes of an accommodation with Carthage, applauded the courage and reſolution of their men, loaded the unhappy Giſco and his followers with irons, and formally declared war againſt the Carthaginians. All the cities of Africa to whom they had ſent deputies to exhort them to recover their liberty, ſoon came over to them, except Utica and Hippo Diarhytus. By this means their army being greatly increaſed, they divided it into two parts, with one of which they moved towards Utica, whilſt the other marched to Hippo, in order to beſiege both places. The Carthaginians, in the mean time, found themſelves ready to ſink under the preſſure of their misfortunes. After they had been haraſſed 24 years by a moſt cruel and deſtructive foreign war, they entertained ſome hopes of enjoying repoſe. The citizens of Carthage drew their particular ſubſiſtence from the rents or revenues of their lands, and the public expences from the tribute paid from Africa; all which they were not only deprived of at once, but, what was worſe, had it directly turned againſt them. They were deſtitute of arms and forces either by ſea or land; had made no preparations for the ſuſtaining of a ſiege, or the equipping of a fleet. They ſuffered all the calamities incident to the moſt ruinous civil war; and, to complete their miſery, had not the leaſt proſpect of receiving aſſiſtance from any foreign friend or ally. Notwithſtanding their deplorable ſituation, however, they did not deſpond, but purſued all the meaſures neceſſary to put themſelves into a poſture of defence. Hanno was appointed commander in chief of all their forces; and the moſt ſtrenuous efforts were made, not only to repel all the attempts of the mutineers, but even to reduce them by force of arms. Carthage.

90 The mercenaries declare war.

In the mean time Mathos and Spendius laid ſiege to Utica and Hippacra at once; but as they were carried on by detachments drawn from the army for that purpoſe, they remained with the main body of their forces at Tunis, and thereby cut off all communication betwixt Carthage and the continent of Africa. By this means the capital was kept in a kind of blockade. The Africans likewiſe haraſſed them by perpetual alarms, advancing to the very walls of Carthage by day as well as by night, and treating with the utmoſt cruelty every Carthaginian that fell into their hands.

91 They are defeated by Hanno.

Hanno was diſpatched to the relief of Utica with a good body of forces, 100 elephants, and a large train of battering engines. Having taken a view of the enemy, he immediately attacked their intrenchments, and, after an obſtinate diſpute, forced them. The mercenaries loſt a vaſt number of men; and conſequently the advantages gained by Hanno were ſo great, that they might have proved deciſive, had he made a proper uſe of them: But becoming ſecure after his victory, and his troops being every where off their duty, the mercenaries, having rallied their forces, fell upon him, cut off many of his men, forced the reſt to fly into the town, retook and plundered the camp, and ſeized all the proviſions, military ſtores, &c. brought to the relief of the beſieged. Nor was this the only inſtance of Hanno's military incapacity. Notwithſtanding he lay encamped in the moſt advantageous manner near a town called *Gorza*, at which place he twice overthrew the enemy, and had it in his power

92 He is in his turn defeated.

Carthage. power to have totally ruined them, he yet neglected to improve thoſe advantages, and even ſuffered the mercenaries to poſſeſs themſelves of the iſthmus which joined the peninſula on which Carthage ſtood, to the continent of Africa.

93 Hamilcar Barcas appointed to command againſt them.

Theſe repeated miſtakes induced the Carthaginians once more to place Hamilcar Barcas at the head of their forces. He marched againſt the enemy with 10,000 men, horſe and foot; being all the troops the Carthaginians could then aſſemble for their defence; a full proof of the low ſtate to which they were at that time reduced. As Mathos, after he had poſſeſſed himſelf of the iſthmus, had poſted proper detachments in two paſſes on two hills facing the continent, and guarded the bridge over the Bagrada, which through Hanno's neglect he had taken, Hamilcar ſaw little probability of engaging him upon equal terms, or indeed of coming at him. Obſerving, however, that on the blowing of certain winds the mouth of the river was choaked up with ſand, ſo as to become paſſable, though with no ſmall difficulty, as long as theſe winds continued; he halted for ſome time at the river's mouth, without communicating his deſign to any perſon. As ſoon as the wind favoured his intended project, he paſſed the river privately by night, and immediately after his paſſage he drew up the troops in order of battle, and advancing into the plain where his elephants were capable of acting, moved towards Mathos, who was poſted at the village near the bridge. This daring action greatly ſurpriſed and intimidated the Africans. However, Spendius receiving intelligence of the enemy's motions, drew a body of 10,000 men out of Mathos's camp, with which he attended Hamilcar on one ſide, and ordered 15,000 from Utica to obſerve him on the other, thinking by this means to ſurround the Carthaginians, and cut them all off at one ſtroke. By feigning a retreat, Hamilcar found means to engage them at a diſadvantage; and gave them a total overthrow, with the loſs of 6000 killed and 2000 taken priſoners. The reſt fled, ſome to the town at the bridge, and others to the camp at Utica. He did not give them time to recover from their defeat, but purſued them to the town near the bridge before mentioned; which he entered without oppoſition, the mercenaries flying in great confuſion to Tunis; and upon this many towns ſubmitted of their own accord to the Carthaginians, whilſt others were reduced by force.

94 He defeats them.

Notwithſtanding theſe diſaſters, Mathos puſhed on the ſiege of Hippo with great vigour, and appointed Spendius and Autaritus, commanders of the Gauls, with a ſtrong body, to obſerve the motions of Hamilcar. Theſe two commanders, therefore, at the head of a choice detachment of 6000 men drawn out of the camp at Tunis, and 2000 Gallic horſe, attended the Carthaginian general, approaching him as near as they could with ſafety, and keeping cloſe to the ſkirts of the mountains. At laſt Spendius, having received a ſtrong reinforcement of Africans and Numidians, and poſſeſſing himſelf of all the heights ſurrounding the plain in which Hamilcar lay encamped, reſolved not to let ſlip ſo favourable an opportunity of attacking him. Had a battle now enſued, Hamilcar and his army muſt in all probability have been cut off; but by the deſertion of one Naravaſus, a young Numidian nobleman, with 2000 men, he found himſelf enabled to offer his enemies battle. The fight was obſtinate and bloody; but at laſt the mercenaries were entirely overthrown, with the loſs of 10,000 men killed and 4000 taken priſoners. All the priſoners that were willing to liſt in the Carthaginian ſervice, Hamilcar received among his troops, ſupplying them with the arms of the ſoldiers who had fallen in the engagement. To the reſt he gave full liberty to go where they pleaſed; upon condition that they ſhould never for the future bear arms againſt the Carthaginians; informing them at the ſame time, however, that as many violators of this agreement as fell into his hands muſt expect to find no mercy. Carthage.

95 Mercenaries again defeated.

96 They put to death all the Carthaginian priſoners.

Mathos and his aſſociates, fearing that this affected lenity of Hamilcar might occaſion a defection among the troops, thought that the beſt expedient would be to put them upon ſome action ſo execrable in its nature that no hopes of reconciliation might remain. By their advice, therefore, Giſco and all the Carthaginian priſoners were put to death; and when Hamilcar ſent to demand the remains of his countrymen, he received for anſwer, that whoever preſumed hereafter to come upon that errand, ſhould meet with Giſco's fate: after which they came to a reſolution to treat with the ſame barbarity all ſuch Carthaginians as ſhould fall into their hands. In return for this enormity, Hamilcar threw all the priſoners that fell into his hands to be devoured by wild beaſts; being convinced that compaſſion ſerved only to make his enemies more fierce and untractable.

The war was now carried on generally to the advantage of the Carthaginians; nevertheleſs, the malecontents ſtill found themſelves in a capacity to take the field with an army of 50,000 men. They watched Hamilcar's motions; but kept on the hills, carefully avoiding to come down into the plains, on account of the Numidian horſe and Carthaginian elephants. Hamilcar, being much ſuperior in ſkill to any of their generals, at laſt ſhut them up in a poſt ſo ſituated that it was impoſſible to get out of it. Here he kept them ſtrictly beſieged; and the mercenaries, not daring to venture a battle, began to fortify their camp, and ſurround it with ditches and intrenchments.

97 They are beſieged by Hamilcar.

They were ſoon preſſed by famine ſo ſorely, that they were obliged to eat one another: but they were driven deſperate by the conſciouſneſs of their guilt, and therefore did not deſire any terms of accommodation. At laſt, being reduced to the utmoſt extremity of miſery, they inſiſted that Spendius, Autaritus, and Zarxas, their leaders, ſhould in perſon have a conference with Hamilcar, and make propoſals to him. Peace was accordingly concluded upon the following terms, viz. That ten of the ringleaders of the malecontents ſhould be left entirely to the mercy of the Carthaginians; and that the troops ſhould all be diſarmed, every man retiring only in a ſingle coat. The treaty was no ſooner concluded, than Hamilcar, by virtue of the firſt article, ſeized upon the negociators themſelves, and the army being informed that their chiefs were under arreſt, had immediately recourſe to arms, as ſuſpecting they were betrayed; but Hamilcar, drawing out his army in order of battle, ſurrounded them, and either cut them to pieces,

98 40,000 of them deſtroyed.

Carthage. pieces, or trod them to death with his elephants. The number of wretches who periſhed on this occaſion amounted to above 40,000.

After the deſtruction of this army, Hamilcar inveſted Tunis, whither Mathos had retired with all his remaining forces. Hamilcar had another general, named *Hannibal*, joined in the command with him. Hannibal's quarter was on the road leading to Carthage, and Hamilcar's on the oppoſite ſide. The army was no ſooner encamped, than Hamilcar cauſed Spendius, and the reſt of the priſoners, to be led out in the view of the beſieged, and crucified near the walls. Mathos, however, obſerving that Hannibal did not keep ſo good a guard as he ought to have done, made a ſally, attacked his quarters, killed many of his men, took ſeveral priſoners, among whom was Hannibal himſelf, and plundered his camp. Taking the body of Spendius from the croſs, Mathos immediately ſubſtituted Hannibal in its room; and 30 Carthaginian priſoners of diſtinction were crucified around him. Upon this diſaſter, Hamilcar immediately decamped, and poſted himſelf along the ſea-coaſt, near the mouth of the river Bagrada.

99 Hannibal taken and crucified by Mathos.

The ſenate, though greatly terrified by this unexpected blow, omitted no means neceſſary for their preſervation. They ſent 30 ſenators, with Hanno at their head, to conſult with Hamilcar about the proper meaſures for putting an end to this unnatural war, conjuring, in the moſt preſſing manner, Hanno to be reconciled to Hamilcar, and to ſacrifice his private reſentment to the public benefit. This, with ſome difficulty, was effected: and the two generals came to a full reſolution to act in concert for the good of the public. The ſenate, at the ſame time, ordered all the youth capable of bearing arms to be preſſed into the ſervice: by which means a ſtrong reinforcement being ſent to Hamilcar, he ſoon found himſelf in a condition to act offenſively. He now defeated the enemy in all rencounters, drew Mathos into frequent ambuſcades, and gave him one notable overthrow near Leptis. This reduced the rebels to the neceſſity of hazarding a deciſive battle, which proved fatal to them. The mercenaries fled almoſt at the firſt onſet; moſt of their army fell in the field of battle, and in the purſuit. Mathos, with a few, eſcaped to a neighbouring town, where he was taken alive, carried to Carthage, and executed; and then, by the reduction of the revolted cities, an end was put to this war, which, from the exceſſes of cruelty committed in it, according to Polybius, went among the Greeks by the name of the *inexpiable war*.

100 Mathos entirely defeated and taken priſoner.

During the Lybian war, the Romans, upon ſome abſurd pretences, wreſted the iſland of Sardinia from the Carthaginians; which the latter, not being able to reſiſt, were obliged to ſubmit to. Hamilcar finding his country not in a condition to enter into an immediate war with Rome, formed a ſcheme to put it on a level with that haughty republic. This was by making an entire conqueſt of Spain, by which means the Carthaginians might have troops capable of coping with the Romans. In order to facilitate the execution of this ſcheme, he inſpired both his ſon-in-law Aſdrubal, and his ſon Hannibal, with an implacable averſion to the Romans, as the great oppoſers of his country's grandeur. Having completed all the neceſſary preparations, Hamilcar, after having greatly enlarged the Carthaginian dominions in Africa, entered Spain, where he commanded nine years, during which time he ſubdued many warlike nations, and amaſſed an immenſe quantity of treaſure, which he diſtributed partly amongſt his troops, and partly amongſt the great men at Carthage; by which means he ſupported his intereſts with theſe two powerful bodies. At laſt, he was killed in a battle, and was ſucceeded by his ſon-in-law Aſdrubal. This general fully anſwered the expectations of his countrymen; greatly enlarged their dominions in Spain; and built the city of New Carthage, now Carthagena. He made ſuch progreſs in his conqueſts, that the Romans began to grow jealous. They did not, however, chooſe at preſent to come to an open rupture, on account of the apprehenſions they were under of an invaſion from the Gauls. They judged it moſt proper, therefore, to have recourſe to milder methods; and prevailed upon Aſdrubal to conclude a new treaty with them. The articles of it were, 1. That the Carthaginians ſhould not paſs the Iberus. 2. That the Saguntines, a colony of Zacynthians, and a city ſituated between the Iberus and that part of Spain ſubject to the Carthaginians, as well as the other Greek colonies there, ſhould enjoy their ancient rights and privileges.

101 Hamilcar's ſcheme to equal Carthage with Rome.

Carthage.

102 His death.

103 Aſdrubal's treaty with the Romans.

Aſdrubal, after having governed the Carthaginian dominions in Spain for eight years, was treacherouſly murdered by a Gaul whoſe maſter he had put to death. Three years before this happened, he had written to Carthage, to deſire that young Hannibal, then twenty-two years of age, might be ſent to him. This requeſt was complied with, notwithſtanding the oppoſition of Hanno: and from the firſt arrival of the young man in the camp, he became the darling of the whole army. The great reſemblance he bore to Hamilcar, rendered him extremely agreeable to the troops. Every talent and qualification he ſeemed to poſſeſs that can contribute towards forming a great man. After the death of Aſdrubal, he was ſaluted general by the army with the higheſt demonſtrations of joy. He immediately put himſelf in motion; and, in the firſt campaign, conquered the Olcades, a nation ſeated near the Iberus. The next year he ſubdued the Vaccæi, another nation in that neighbourhood. Soon after, the Carpetani, one of the moſt powerful nations in Spain, declared againſt the Carthaginians. Their army conſiſted of 100,000 men, with which they propoſed to attack Hannibal on his return from the Vaccæi; but by a ſtratagem they were utterly defeated, and the whole nation obliged to ſubmit.

104 He is murdered.

105 Succeeded by Hannibal, who makes vaſt conqueſts in Spain.

Nothing now remained to oppoſe the progreſs of the Carthaginian arms but the city of Saguntum. Hannibal, however, for ſome time, did not think proper to come to a rupture with the Romans by attacking that place. At laſt he found means to embroil ſome of the neighbouring cantons, eſpecially the Turdetani, or, as Appian calls them, the *Torboſtæ*, with the Saguntines, and thus furniſhed himſelf with a pretence to attack their city. Upon the commencement of the ſiege, the Roman ſenate diſpatched two ambaſſadors to Hannibal, with orders to proceed to Carthage in caſe the general refuſed to give them ſatisfaction. They were ſcarce landed, when Hannibal, who was carrying on the ſiege of Saguntum with great

106 He attacks Saguntum.

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Carthage. vigour, ſent them word that he had ſomething elſe to do than to give audience to ambaſſadors. At laſt, however, he admitted them; and, in anſwer to their remonſtrances, told them, that the Saguntines had drawn their misfortunes upon themſelves, by committing hoſtilities againſt the allies of Carthage; and at the ſame time deſired the deputies, if they had any complaints to make of him, to carry them to the ſenate of Carthage. On their arrival in that capital, they demanded that Hannibal might be delivered up to the Romans to be puniſhed according to his deſerts; and this not being complied with, war was immediately declared between the two nations.

The Saguntines are ſaid to have defended themſelves for eight months with incredible bravery. At laſt, however, the city was taken, and the inhabitants were treated with the utmoſt cruelty. After this conqueſt, Hannibal put his African troops into winter-quarters at New Carthage; but in order to gain their affection, he permitted the Spaniards to retire to their reſpective homes.

107 And takes it.

The next campaign, having taken the neceſſary meaſures for ſecuring Africa and Spain, he paſſed the Iberus, ſubdued all the nations betwixt that river and the Pyrenees, appointed Hanno commander of all the new conquered diſtrict, and immediately began his march for Italy. Upon muſtering his forces, after they had been weakened by ſieges, deſertion, mortality, and a detachment of 10,000 foot and 1000 horſe left with Hanno to ſupport him in his new poſt, he found them to amount to 50,000 foot and 9000 horſe, all veteran troops, and the beſt in the world. As they had left their heavy baggage with Hanno, and were all light armed, Hannibal eaſily croſſed the Pyrenees; paſſed by Ruſcino, a frontier town of the Gauls; and arrived on the banks of the Rhone without oppoſition. This river he paſſed, notwithſtanding of ſome oppoſition from the Gauls; and was for ſome time in doubt whether he ſhould advance to engage the Romans, who, under Scipio, were bending their march that way, or continue his march for Italy. But to the latter he was ſoon determined by the arrival of Magilus prince of the Boii, who brought rich preſents with him, and offered to conduct the Carthaginian army over the Alps. Nothing could have happened more favourable to Hannibal's affairs than the arrival of this prince, ſince there was no room to doubt the ſincerity of his intentions. For the Boii bore an implacable enmity to the Romans, and had even come to an open rupture with them upon the firſt news that Italy was threatened with an invaſion from the Carthaginians.

108 He ſets out for Italy.

109 He croſſes the Alps.

It is not known with certainty where Hannibal began to aſcend the Alps. As ſoon as he began his march, the petty kings of the country aſſembled their forces in great numbers; and taking poſſeſſion of the eminences over which the Carthaginians muſt neceſſarily paſs, they continued haraſſing them, and were no ſooner driven from one eminence than they ſeized on another, diſputing every foot of land with the enemy, and deſtroying great numbers of them by the advantage they had of the ground. Hannibal, however, having found means to poſſeſs himſelf of an advantageous poſt, defeated and diſperſed the enemy; and ſoon after took their capital city, where he found the priſoners, horſes, &c. that had before fallen into the hands of the enemy, and likewiſe corn ſufficient to ſerve the army for three days. At laſt, after a moſt fatiguing march of nine days, he arrived at the top of the mountains. Here he encamped, and halted two days, to give his wearied troops ſome repoſe, and to wait for the ſtragglers. As the ſnow was lately fallen in great plenty, and covered the ground, this ſight terrified the Africans and Spaniards, who were much affected with the cold. In order therefore to encourage them, the Carthaginian general led them to the top of the higheſt rock on the ſide of Italy, and thence gave them a view of the large and fruitful plains of Inſubria, acquainting them that the Gauls, whoſe country they ſaw, were ready to join them. He alſo pointed out to them the place whereabout Rome ſtood, telling them, that by climbing the Alps, they had ſcaled the walls of that rich metropolis; and having thus animated his troops, he decamped, and began to deſcend the mountains. The difficulties they met with in their deſcent were much greater than thoſe that had occurred while they aſcended. They had indeed no enemy to contend with, except ſome ſcattered parties that came to ſteal rather than to fight; but the deep ſnows, the mountains of ice, craggy rocks, and frightful precipices, proved more terrible than any enemy. After they had for ſome days marched through narrow, ſteep, and ſlippery ways, they came at laſt to a place which neither elephants, horſes, nor men, could paſs. The way which lay between two precipices was exceeding narrow; and the declivity, which was very ſteep, had become more dangerous by the falling away of the earth. Here the guides ſtopped; and the whole army being terrified, Hannibal propoſed at firſt to march round about, and attempt ſome other way: but all places round him being covered with ſnow, he found himſelf reduced to the neceſſity of cutting a way into the rock itſelf, through which his men, horſes, and elephants, might deſcend. This work was accompliſhed with incredible labour; and then Hannibal, having ſpent nine days in aſcending, and ſix in deſcending, the Alps, gained at length Inſubria; and, notwithſtanding all the diſaſters he had met with by the way, entered the country with all the boldneſs of a conqueror.

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Hannibal, on his entry into Inſubria, reviewed his army, when he found that of the 50,000 foot with whom he ſet out from New Carthage five months and 15 days before, he had now but 20,000, and that his 9000 horſe were reduced to 6000. His firſt care, after he entered Italy, was to refreſh his troops; who after ſo long a march, and ſuch inexpreſſible hardſhips, looked like as many ſkeletons raiſed from the dead, or ſavages born in a deſert. He did not, however, ſuffer them to languiſh long in idleneſs; but, joining the Inſubrians, who were at war with the Taurinians, laid ſiege to Taurinum, the only city in the country, and in three days time became maſter of it, putting all who reſiſted to the ſword. This ſtruck the neighbouring barbarians with ſuch terror, that of their own accord they ſubmitted to the conqueror, and ſupplied his army with all ſorts of proviſions.

110 Taurinum taken.

Scipio, the Roman general, in the mean time, who had gone in queſt of Hannibal on the banks of the Rhone, was ſurpriſed to find his antagoniſt had croſ-

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fed the Alps and entered Italy. He therefore returned with the utmoſt expedition. An engagement enſued near the river Ticinus, in which the Romans were defeated. The immediate conſequence was, that Scipio repaſſed that river, and Hannibal continued his march to the banks of the Po. Here he ſtaid two days, before he could croſs that river over a bridge of boats. He then ſent Mago in purſuit of the enemy, who having rallied their ſcattered forces, and repaſſed the Po, were encamped at Placentia. Afterwards having concluded a treaty with ſeveral of the Gallic cantons, he joined his brother with the reſt of the army, and again offered battle to the Romans: but this they thought proper to decline; and at laſt the conſul, being intimidated by the deſertion of a body of Gauls, abandoned his camp, paſſed the Trebia, and poſted himſelf on an eminence near that river. Here he drew lines round his camp, and waited the arrival of his colleague with the forces from Sicily.

111 The Romans defeated near the Ticinus.

Hannibal being apprized of the conſul's departure, ſent out the Numidian horſe to haraſs him on his march; himſelf moving with the main body to ſupport them in caſe of need. The Numidians arriving before the rear of the Roman army had quite paſſed the Trebia, put to the ſword or made priſoners all the ſtragglers they found there. Soon after, Hannibal coming up, encamped in ſight of the Roman army, on the oppoſite bank. Here having learned the character of the conſul Sempronius lately arrived, he ſoon brought him to an engagement, and entirely defeated him. Ten thouſand of the enemy retired to Placentia; but the reſt were either killed or taken priſoners. The Carthaginians purſued the flying Romans as far as the Trebia, but did not think proper to repaſs that river on account of the exceſſive cold.

112 They are again defeated.

Hannibal, after this action upon the Trebia, ordered the Numidians, Celtiberians, and Luſitanians, to make incurſions into the Roman territories, where they committed great devaſtations. During his ſtate of inaction, he endeavoured to win the affections of the Gauls, and likewiſe of the allies of the Romans; declaring to the Gallic and Italian priſoners, that he had no intention of making war upon them, being determined to reſtore them to their liberty, and protect them againſt the Romans: and to confirm them in their good opinion of him, he diſmiſſed them all without ranſom.

113 They are utterly defeated near the lake Thraſymenus.

Next year, having croſſed the Apennines, and penetrated into Etruria, Hannibal received intelligence that the new conſul Flaminius lay encamped with the Roman army under the walls of Arretium. Having learned the true character of this general, that he was of an haughty, fierce, and raſh diſpoſition, he doubted not of being ſoon able to bring him to a battle. To inflame the impetuous ſpirit of Flaminius, the Carthaginian general took the road to Rome, and, leaving the Roman army behind him, deſtroyed all the country through which he paſſed with fire and ſword; and as that part of Italy abounded with all the elegancies as well as neceſſaries of life, the Romans and their allies ſuffered an incredible loſs on this occaſion. The raſh conſul was inflamed with the utmoſt rage on ſeeing the ravages committed by the Carthaginians; and therefore immediately approached them with great temerity, as if certain of victory. Hannibal in the mean time kept on, ſtill advancing towards Rome, having Cortona on the left hand, and the lake Thraſymenus on the right; and at laſt, having drawn Flaminius into an ambuſcade, entirely defeated him. The general himſelf, with 15,000 of his men, fell on the field of battle. A great number were likewiſe taken priſoners, and a body of 6000 men, who had fled to a town in Etruria, ſurrendered to Maherbal the next day. Hannibal loſt only 1500 men on this occaſion, moſt of whom were Gauls; though great numbers, both of his ſoldiers and of the Romans, died of their wounds. Being ſoon after informed that the conſul Servilius had detached a body of 4000, or, according to Appian, 8000 horſe from Ariminum, to reinforce his colleague in Etruria, Hannibal ſent out Maherbal, with all the cavalry, and ſome of the infantry, to attack him. The Roman detachment conſiſted of choſen men, and was commanded by Centenius a Patrician. Maherbal had the good fortune to meet with him, and after a ſhort diſpute entirely defeated him. Two thouſand of the Romans were laid dead on the ſpot; the reſt, retiring to a neighbouring eminence, were ſurrounded by Maherbal's forces, and obliged next day to ſurrender at diſcretion; and this diſaſter, happening within a few days after the defeat at the lake Thraſymenus, almoſt gave the finiſhing ſtroke to the Roman affairs.

114 A Roman detachment cut to pieces or taken.

The Carthaginian army was now ſo much troubled with a ſcorbutic diſorder, owing to the unwholeſome encampments they had been obliged to make, and the moraſſes they had paſſed through, that Hannibal found it abſolutely neceſſary to repoſe them for ſome time in the territory of Adria, a moſt pleaſant and fertile country. In his various engagements with the Romans, he had taken a great number of their arms, with which he now armed his men after the Roman manner. Being now likewiſe maſter of that part of the country bordering on the ſea, he found means to ſend an expreſs to Carthage with the news of the glorious progreſs of his arms. The citizens received this news with the moſt joyful acclamations, at the ſame time coming to a reſolution to reinforce their armies both in Italy and Spain with a proper number of troops.

115 Fabius Maximus named dictator.

The Romans being now in the utmoſt conſternation, named a dictator, as was their cuſtom in times of great danger. The perſon they choſe to this office was Fabius Maximus, ſurnamed *Verrucoſus*; a man as cool and cautious as Sempronius and Flaminius were warm and impetuous. He ſet out with a deſign not to engage Hannibal, but only to watch his motions, and cut off his proviſions, which he knew was the moſt proper way to deſtroy him in a country ſo far from his own. Accordingly he followed him through Umbria and Picenum, into the territory of Adria, and then through the territories of the Marrucini and Frentani into Apulia. When the enemy marched, he followed them; when they encamped, he did the ſame; but for the moſt part on eminences, and at ſome diſtance from their camp, watching all their motions, cutting off their ſtragglers, and keeping them in a continual alarm. This cautious method of proceeding greatly diſtreſſed the Carthaginians, but at the ſame time raiſed diſcontents in his own army. But neither

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theſe diſcontents, nor the ravages committed by Hannibal, could prevail upon Fabius to alter his meaſures. The former, therefore, entered Campania, one of the fineſt countries of Italy. The ravages he committed there, raiſed ſuch complaints in the Roman army, that the dictator, for fear of irritating his ſoldiers, was obliged to pretend a deſire of coming to an engagement. Accordingly he followed Hannibal with more expedition than uſual; but at the ſame time avoided, under various pretences, an engagement with more care than the enemy fought it. Hannibal finding he could not by any means bring the dictator to a battle, reſolved to quit Campania, which he found abounding more with fruit and wine than corn, and to return to Samnium through the paſs called Eribanus. Fabius concluding from his march that this was his deſign, got there before him, and encamped on Mount Callicula, which commanded the paſs, after having placed ſeveral bodies in all the avenues leading to it.

116 He is outwitted by Hannibal.

Hannibal was for ſome time at a loſs what to do; but at laſt contrived the following ſtratagem, which Fabius could not foreſee nor guard againſt. Being encamped at the foot of Mount Callicula, he ordered Aſdrubal to pick out of the cattle taken in the country, 2000 of the ſtrongeſt and nimbleſt oxen, to tie faggots to their horns, and to have them and the herdſmen ready without the camp. After ſupper, when all was quiet, the cattle were brought in good order to the hill, where Fabius had placed ſome Roman parties in ambuſh to ſtop up the paſs. Upon a ſignal given, the faggots on the horns of the oxen were ſet on fire; and the herdſmen, ſupported by ſome battalions armed with ſmall javelins, drove them on quietly. The Romans ſeeing the light of the fires, imagined that the Carthaginians were marching by torch-light. However, Fabius kept cloſe in his camp, depending on the troops he had placed in ambuſcade; but when the oxen, feeling the fire on their heads, began to run up and down the hills, the Romans in ambuſh thinking themſelves ſurrounded on all ſides, and climbing the ways where they ſaw leaſt light, returned to their camp leaving the paſs open to Hannibal. Fabius, though rallied by his ſoldiers for being thus over-reached by the Carthaginian, ſtill continued to purſue the ſame plan, marched directly after Hannibal, and encamped on ſome eminences near him.

Soon after this, the dictator was recalled to Rome; and as Hannibal, notwithſtanding the terrible ravages he had committed, had all along ſpared the lands of Fabius, the latter was ſuſpected of holding a ſecret correſpondence with the enemy. In his abſence, Minucius, the general of the horſe, gained ſome advantages, which greatly tended to increaſe the diſcontent with the dictator, inſomuch that before his return Minucius was put upon an equal footing with himſelf. The general of the horſe propoſed that each ſhould command his day; but the dictator choſe rather to divide the army, hoping by that means to ſave at leaſt a part of it. Hannibal ſoon found means to draw Minucius to an engagement, and, by his maſterly ſkill in laying ambuſhes, the Roman general was ſurrounded on every ſide, and would have been cut off with all his troops, had not Fabius haſtened to his aſſiſtance, and relieved him. Then the two armies uniting, advanced in good order to renew the fight: but Hannibal, not caring to venture a ſecond action, ſounded a retreat, and retired to his camp; and Minucius, being aſhamed of his raſhneſs, reſigned the command of the army to Fabius.

117 Minucius in great danger, is relieved by Fabius.

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118 The Romans utterly defeated at Cannæ.

The year following, the Romans augmented their army to 87,000 men, horſe and foot; and Hannibal being reduced to the greateſt ſtraits for want of proviſions, reſolved to leave Samnium, and penetrate into the heart of Apulia. Accordingly he decamped in the night; and by leaving fires burning, and tents ſtanding in his camp, made the Romans believe for ſome time that his retreat was only feigned. When the truth was diſcovered, Æmilius was againſt purſuing him: but Terentius, contrary to the opinion of all the officers in the army, except the proconſul Servilius, was obſtinately bent on following the enemy; and overtook them at Cannæ, till this time an obſcure village in Apulia*. A battle enſued in this place, as memorable as any mentioned in hiſtory; in which the Romans, though almoſt double in number to the Carthaginians, were put to flight with moſt terrible ſlaughter; at leaſt 45,000 of them being left dead on the field of battle, and 10,000 taken priſoners in the action or purſuit. The night was ſpent in Hannibal's camp in feaſting and rejoicings, and next day in ſtripping the dead bodies of the unhappy Romans; after which the victorious general inveſted their two camps, where he found 4000 men.

* See Cannæ.

119 Conſequences of this victory.

The immediate conſequence of this victory, as Hannibal had foreſeen, was a diſpoſition of that part of Italy called the Old province, Magna Græcia, Tarentum, and part of the territory of Capua, to ſubmit to him. The neighbouring provinces likewiſe diſcovered an inclination to ſhake off the Roman yoke, but wanted firſt to ſee whether Hannibal was able to protect them. His firſt march was into Samnium, being informed that the Hirpini and other neighbouring nations were diſpoſed to enter into an alliance with the Carthaginians. He advanced to Compſa, which opened its gates to him. In this place he left his heavy baggage, as well as the immenſe plunder he had acquired. After which he ordered his brother Mago with a body of troops deſtined for that purpoſe to poſſeſs himſelf of all the fortreſſes in Campania, the moſt delicious province of Italy. The humanity Hannibal had all along ſhown the Italian priſoners, as well as the fame of the complex victory he had lately obtained, wrought ſo powerfully upon the Lucani, Brutii, and Apulians, that they expreſſed an eager deſire of being taken under his protection. Nay, even the Campanians themſelves, a nation more obliged to the Romans than any in Italy, except the Latins, diſcovered an inclination to abandon their natural friends.

120 Capua ſubmits to Hannibal.

Of this the Carthaginian general receiving intelligence, he bent his march towards Capua, not doubting, but that, by means of the popular faction there, he ſhould eaſily make himſelf maſter of it; which accordingly happened. Soon after this place had made its ſubmiſſion, many cities of the Brutii opened their gates to Hannibal, who ordered his brother Mago to take poſſeſſion of them. Mago was then diſpatched to Carthage, with the important news of the victory at Cannæ, and the conſequences attending it. Upon his

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his arrival there, he acquainted the ſenate, that Hannibal had defeated ſix Roman generals, four of whom were conſuls, one dictator, and the other general of horſe to the dictator: that he had engaged ſix conſular armies, killed two conſuls, wounded one, and driven another out of the field with ſcarce 50 men to attend him: that he had routed the general of the horſe, who was of equal power with the conſuls; and that the dictator was eſteemed the only general fit to command an army, merely becauſe he had not the courage to engage him; and as a demonſtrative proof of what he advanced, he produced, according to ſome authors, three buſhels and an half of gold rings, taken from knights and ſenators who had been killed in the various engagements.

111 Mago's account of Hannibal's ſucceſs.

112 Hannibal ſuperior to every other general mentioned in hiſtory.

Hitherto we have ſeen Hannibal ſurpriſingly victorious; and, indeed, if we conſider what he had already done, we ſhall find his exploits ſuperior to thoſe of any other general, either ancient or modern. Other commanders have been celebrated for victories gained over barbarous and uncivilized nations. Alexander the Great invaded and over-ran the empire of Perſia; but that kingdom was then ſunk in ſloth and effeminacy, ſo as to be an eaſy conqueſt: but had the great commander turned his arms againſt the weſtern nations, who were of a more martial diſpoſition, it is more than probable he had not conquered ſo eaſily. Hannibal, on the other hand, lived at a time when the Romans were not only the moſt powerful, but the moſt warlike nation in the whole world. That nation he attacked with an army of only 26,000 men, without reſources either for recruits, money, or proviſions, except what he could procure in the enemies country. With theſe he had for three years reſiſted the Roman armies, which had been hitherto invincible by all other nations. Their armies had been commanded by generals of different tempers, diſpoſitions, and abilities: the loſſes they ſuſtained are by the Roman writers imputed to the faults of the generals themſelves; but experience had abundantly ſhown, that theſe commanders, with all their faults, were able to conquer the moſt warlike nations, when commanded by another than Hannibal. In the battles fought with the Romans he had deſtroyed 200,000 of their men, and taken 50,000 priſoners; yet from the time of the battle of Cannæ, the affairs of this great man totally declined. The reaſon of this is, by the Roman hiſtorians, ſaid to be, that when he put his army into winter-quarters in Capua, he ſo enervated himſelf and his army by debaucheries in that place, that he became no longer capable of coping with the Roman forces. But this ſeems by no means to have been the caſe; for the Roman hiſtorians themſelves own, that, after the battle of Cannæ, he gave their armies many and terrible defeats, and took a great number of towns in their fight.

113 Cauſe of the decline of his affairs.

The true reaſon of that reverſe of fortune which Hannibal now experienced, was his not having ſufficient reſources for recruiting his army. On the firſt news, indeed, of his ſucceſs at Carthage, a body of 4000 Numidian cavalry, 40 elephants, and 1000 talents of ſilver, were granted by the ſenate. A large detachment of Spaniſh forces was alſo appointed to follow them; and that theſe laſt might be ready in due time, Mago ſet out immediately for Spain to raiſe 20,000 foot and 4000 horſe there. Had this ample ſupply been ſent with proper expedition, it is by no means probable that the Romans would have had any occaſion to reflect upon Hannibal's conduct at Capua. That general would undoubtedly have obliged the haughty republic to ſubmit to the ſuperior force of his arms the next campaign. But, notwithſtanding the influence of the Barcinian faction at Carthage, Hanno and his adherents found means not only to retard the march of the ſupplies intended, but even to diminiſh their number. Mago, through the artifices of that infatuated party, could obtain an order for only 12,000 foot and 2500 horſe, and even with this inconſiderable body of troops he was ſent into Spain. Hannibal being thus deſerted by his country, found himſelf obliged to act on the defenſive; his army amounting to no more now than 26,000 foot and 9000 horſe. But though obliged to act in this manner, he was only hindered from conquering; the utmoſt efforts of the whole Roman power not being able to drive this ſmall army out of Italy for more than 14 years.

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114 Meaſures taken by the Romans.

The Romans, though greatly reduced, were not yet exhauſted. They were able ſtill to ſend two conſular armies into the field, fully recruited and in good order; and as neither the Gauls nor Italians were natural allies of the Carthaginians, they did not fail to abandon them on the firſt reverſe of fortune. After the Romans had recovered from the conſternation into which they were thrown by the defeat at Cannæ, they choſe a dictator, and recalled Marcellus, the conqueror of Syracuſe, from Sicily. All the young Romans, above 17 years of age, of what rank ſoever, were obliged to liſt themſelves; as were alſo thoſe who had already ſerved their legal time. By this means four legions and 10,000 horſe were ſoon raiſed in the city. The allies of Rome, the colonies, and the municipia, furniſhed the contingence as uſual. To theſe were added 8000 of the youngeſt and ſtrongeſt ſlaves in the city. The republic purchaſed them of their maſters, but did not oblige them to ſerve without their own conſent, which they gave, by anſwering *Volo*, "I am willing;" whence they were called *volones*, to diſtinguiſh them from the other troops. As the Romans, after the loſs of ſo many battles, had no ſwords, darts, or bucklers, left in their magazines, the *volones* were ſupplied with the arms which had been formerly taken from the enemy, and hung up in the public temples and porticoes. The finances of Rome were no leſs exhauſted; but this defect was ſupplied by the liberality of her citizens. The ſenators ſhowing the example, were followed firſt by the knights, and afterwards by all the tribes; who ſtripping themſelves of all the gold they had, brought it to the public treaſury. The ſenators only reſerved their rings, and the *bullæ* about their childrens necks. As for the ſilver coin, it was now, for the firſt time, alloyed with copper, and increaſed in its value. Thus the finances were put into a good condition, and a competent army raiſed.

This was plainly the laſt effort the Romans could make; and could Hannibal have procured a ſufficient ſupply of men and money to enable him to cope with this army, and to break it as he had done the others before, there could have been no more reſiſtance made on their part. He began, however, to be in want of money;

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125 They refuſe to treat of peace.

126 Aſdrubal defeated by the Romans in Spain.

All this time Cneius and Publius Scipio had carried on the war in Spain with great ſucceſs againſt the Carthaginians. Aſdrubal had been ordered to enter Italy with his army to aſſiſt Hannibal; but being defeated by the Romans, was prevented. The dictator and ſenate of Rome, encouraged by this news, carried on the preparations for the next campaign with the greateſt vigour, whilſt Hannibal remained inactive at Capua. This inaction, however, ſeems to have proceeded from his expectation of ſuccours from Africa, which never came, and which delay occaſioned his ruin. The Roman dictator now releaſed from priſon all criminals, and perſons confined for debt, who were willing to inliſt themſelves. Of theſe he formed a body of 6000 foot, armed with the broad ſwords and bucklers formerly taken from the Gauls. Then the Roman army, to the number of about 25,000 men, marched out of the city, under the command of the dictator; while Marcellus kept the remains of Varro's army, amounting to about 15,000 men, at Caſilinum, in readineſs to march whenever there ſhould be occaſion.

Thus the Roman forces were ſtill ſuperior to thoſe of Hannibal; and as they now ſaw the neceſſity of following the example of Fabius Maximus, no engagement of any conſequence happened the firſt year after the battle of Cannæ. Hannibal made a fruitleſs attempt upon Nola, expecting it would be delivered up to him; but this was prevented by Marcellus, who had entered that city, and ſallying unexpectedly from three gates upon the Carthaginians, obliged them to retire in great confuſion, with the loſs of 5000 men. This was the firſt advantage that had been gained by the Romans where Hannibal had commanded in perſon, and raiſed the ſpirits of the former not a little. They were, however, greatly dejected, on hearing that the conſul Poſthumius Albinus, with his whole army, had been cut off by the Boii, as he was croſſing a foreſt. Upon this it was reſolved to draw all the Roman forces out of Gaul and other countries, and turn them againſt Hannibal; ſo that the Carthaginian ſtood daily more and more in need of thoſe ſupplies, which yet never arrived from Carthage. He reduced, however, the cities of Nuceria, Caſilinum, Petelia, Conſentia, Croton, Locri, and ſeveral others in Great Greece, before the Romans gained any advantage over him, except that before Nola already mentioned. The Campanians, who had eſpouſed the Carthaginian intereſt, raiſed an army of 14,000 of their own nation in favour of Hannibal, and put one Marius Alfius at the head of it; but he was ſurpriſed by the conſul Sempronius, who defeated and killed him, with 2000 of his men. It was now found, that Hannibal had concluded a treaty of alliance, offenſive and defenſive, with Philip king of Macedon; but to prevent any diſturbance from that quarter, a Roman army was ſent to Macedon. Soon after this Marcellus defeated Hannibal in a pitched battle, having armed his men with long pikes uſed generally at ſea, and chiefly in boarding of ſhips; by which means the Carthaginians were pierced through, while they were totally unable to hurt their adverſaries with the ſhort javelins they carried. Marcellus purſued them cloſe; and, before they got to their camp, killed 5000, and took 600 priſoners; loſing himſelf about 1000 men, who were trod down by the Numidian horſe, commanded by Hannibal in perſon. After this defeat the Carthaginian general found himſelf deſerted by 1200 of his beſt horſe, partly Spaniards, and partly Numidians, who had croſſed the Alps with him. This touched him ſo ſenſibly, that he left Campania, and retired into Apulia.

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127 Marcellus gains an advantage over Hannibal.

128 Hannibal takes ſeveral cities.

129 He is defeated by Marcellus.

130 He is deſerted by a party of horſe.

The Romans ſtill continued to increaſe their forces; and Hannibal, not having the ſame reſources, found it impoſſible to act againſt ſo many armies at once. Fabius Maximus advanced into Campania, whither Hannibal was obliged to return in order to ſave Capua. He ordered Hanno, however, at the head of 17,000 foot and 1700 horſe, to ſeize Beneventum; but he was utterly defeated, ſcarce 2000 of his men being left alive. Hannibal himſelf, in the mean time, advanced to Nola, where he was again defeated by Marcellus. He now began to loſe ground; the Romans retook Caſilinum, Acerræ in Apulia, Arpi, and Aternum; but the city of Tarentum was delivered up to him by its inhabitants. The Romans then entered Campania, and ravaged the whole country, threatening Capua with a ſiege. The inhabitants immediately acquainted Hannibal with their danger; but he was ſo intent upon reducing the citadel of Tarentum, that he could not be prevailed upon to come to their aſſiſtance. In the mean time Hanno was again utterly defeated by Fulvius, his camp taken, and he himſelf forced to fly into Brutium with a ſmall body of horſe. The conſuls then advanced with a deſign to beſiege Capua in form. But in their way, Sempronius Gracchus, a man of great bravery, and an excellent general, was betrayed by a Lucanian and killed, which proved a very great detriment to the republic. Capua, however, was ſoon after inveſted on all ſides; and the beſieged once more ſent to Hannibal, who now came to their aſſiſtance with his horſe, his light-armed infantry, and 33 elephants. He found means to inform the beſieged of the time he deſigned to attack the Romans, ordering them to make a vigorous ſally at the ſame time. The Roman generals, Appius and Fulvius, upon the firſt news of the enemy's approach, divided their troops, Appius taking upon him to make head againſt the garriſon, and Fulvius to defend the intrenchments againſt Hannibal. The former found no difficulty in repulſing the garriſon; and would have entered the city with them, had he not been wounded at the very gate, which prevented him from purſuing his deſign. Fulvius found it more difficult to withſtand Hannibal, whoſe troops behaved themſelves with extraordinary reſolution. A body of Spaniards and Numidians

131 He is again defeated, and begins to loſe ground.

132 Capua beſieged by the Romans.

133 Hannibal, [illegible], attempts to relieve it.

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Carthage. Numidians had even the boldneſs to paſs the ditch, and, in ſpite of all oppoſition, climbing the ramparts, penetrated into the Roman camp; but not being properly ſeconded by the reſt, they were all to a man cut in pieces. The Carthaginian general was ſo diſheartened at this, eſpecially after the garriſon was repulſed, that he ſounded a retreat, which was made in good order. His next attempt for the relief of Capua was to march to Rome, where he hoped his approach would ſtrike ſo much terror, that the armies would be called from before Capua; and that the Capuans might not be diſheartened by his ſudden departure, he found means to acquaint them with his deſign. The news of his approach cauſed great conſternation in the metropolis. Some of the ſenators were for calling all the armies in Italy into the neighbourhood of Rome, as thinking nothing leſs was able to reſiſt the terrible Carthaginian. But Fabius told them that Hannibal's deſign was not to take Rome, but relieve Capua; upon which Fulvius was recalled to Rome with 15,000 foot, and 1000 horſe; and this obliged Hannibal again to retire. He then returned before Capua ſo ſuddenly that he ſurpriſed Appius in his camp, drove him out of it with the loſs of a great number of men, and obliged him to entrench himſelf on ſome eminences, where he expected to be ſoon joined by his colleague Fulvius. As Hannibal, however, now expected to have all the Roman forces upon him, he could do nothing more for the relief of Capua, which was, of conſequence, obliged to ſubmit to the Romans.

134 He marches to Rome.

135 He ſurpriſes and defeats Appius.

136 Capua ſubmits to the Romans.

A little before the ſurrender of Capua, Hannibal came up with a Roman army commanded by one M. Centenius Penula, who had ſignalized himſelf on many occaſions as a centurion. This raſh man, being introduced to the ſenate, had the aſſurance to tell them, that if they would truſt him with a body of only 5000 men, he would give a good account of Hannibal. They gave him 8000, and his army was ſoon increaſed to double that number. He engaged the Carthaginians on Hannibal's firſt offering him battle; but after an engagement of two hours, was defeated, himſelf and all his men being ſlain, except about 1000. Soon after, having found means to draw the prætor Cneius Fulvius into an ambuſcade, Hannibal cut in pieces almoſt his whole army, conſiſting of 18,000 men. In the mean time Marcellus was making great progreſs in Samnium. The city of Salapia was betrayed to him; but he took other two by aſſault. In the laſt of theſe he found 3000 Carthaginians, whom he put to the ſword; and carried off 240,000 buſhels of wheat, and 110,000 of barley. This, however, was by no means a compenſation for the defeat which Hannibal ſoon after gave the proconſul Fulvius Centumalus, whom he ſurpriſed and cut off, with 13,000 of his men.

137 Centenius Penula defeated by Hannibal,

138 As alſo the prætor Fulvius,

139 And the pro-conſul Fulvius Centumalus.

After this defeat, the great Marcellus advanced with his army to oppoſe Hannibal. Various engagements happened without any thing deciſive. In one of them the Romans are ſaid to have been defeated, and in another Hannibal; but, notwithſtanding theſe, it was neither in the power of Marcellus, nor any other Roman general, totally to defeat or diſperſe the army commanded by Hannibal in perſon. Nay, in the eleventh year of the war, Hannibal found means to decoy into an ambuſcade, and cut off, the great Marcellus himſelf; the conſequence of which was, that the Romans were obliged to raiſe the ſiege of Locri, with the loſs of all their military engines

140 Marcellus drawn into an ambuſcade and killed.

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Hitherto the Carthaginians, though no longer the favourites of fortune, had loſt but little ground: but now they met with a blow which totally ruined their affairs. This was the defeat of Aſdrubal, Hannibal's brother, who had left Spain, and was marching to his aſſiſtance. He croſſed the Pyrenees without any difficulty; and, as the ſilver mines had ſupplied him with a very conſiderable quantity of treaſure, he not only prevailed upon the Gauls to grant him a paſſage through their territories, but likewiſe to furniſh him with a conſiderable number of recruits. Meeting with many favourable circumſtances to expedite his march, he arrived at Placentia ſooner than the Romans, or even his brother Hannibal, expected. Had he continued to uſe the ſame expedition with which he ſet out, and haſtened to join his brother, it would have been utterly impoſſible to have ſaved Rome; but, ſitting down before Placentia, he gave the Romans an opportunity of aſſembling all their forces to attack him. At laſt he was obliged to raiſe the ſiege, and began his march for Umbria. He ſent a letter to acquaint his brother of his intended motion: but the meſſenger was intercepted; and the two conſuls, joining their armies, with united forces fell upon the Carthaginians. As the latter were inferior both in numbers and reſolution, they were utterly defeated, and Aſdrubal was killed. About the ſame time, Hannibal himſelf is ſaid to have ſuffered ſeveral defeats, and was retired to Canuſium: but, on the fatal news of his brother's defeat and death, he was filled with deſpair, and retired to the extremity of Brutium; where, aſſembling all his forces, he remained for a conſiderable time in a ſtate of inaction, the Romans not daring to diſturb him, ſo formidable did they eſteem him alone, though every thing about him went to wreck, and the Carthaginian affairs ſeemed not far from the verge of deſtruction. Livy tells us, that it was difficult to determine whether his conduct was more wonderful in proſperity or in adverſity. Notwithſtanding which, Brutium being but a ſmall province, and many of its inhabitants being either forced into the ſervice, or forming themſelves into parties of banditti, ſo that a great part of it remained uncultivated, he found it a difficult matter to ſubſiſt there, eſpecially as no manner of ſupplies were ſent him from Carthage. The people there were as ſolicitous about preſerving their poſſeſſions in Spain, and as little concerned about the ſituation of affairs in Italy, as if Hannibal had met with an uninterrupted courſe of ſucceſs, and no diſaſter befallen him ſince he firſt entered that country.

141 Carthaginian affairs totally ruined by the defeat of Aſdrubal.

142 The great progreſs of Scipio Africanus.

All their ſolicitude, however, about the affairs of Spain, was to no purpoſe; their generals, one after another, were defeated by the Romans. They had indeed cut off the two Scipios; but found a much more formidable enemy in the young Scipio, afterwards ſurnamed *Africanus*. He overthrew them in conjunction with Maſiniſſa king of Numidia; and the latter, thereafter, abandoned their intereſt. Soon after, Syphax, king of the Maſæſylii, was likewiſe perſuaded to abandon their party. Scipio alſo gave the Spaniſh Reguli a great overthrow; and reduced the cities

Carthage. cities of New Carthage, Gades, and many other important places. At laſt the Carthaginians began to open their eyes when it was too late. Mago was ordered to abandon Spain, and ſail with all expedition
143 Mago lands in Italy. to Italy. He landed on the coaſt of Liguria with an army of 12,000 foot and 2000 horſe; where he ſurpriſed Genoa, and alſo ſeized upon the town and port of Savo. A reinforcement was ſent him to this place, and new levies went on very briſkly in Liguria; but the opportunity was paſſed, and could not be recalled. Scipio having carried all before him in Spain, paſſed
144 Scipio lands in Africa. over into Africa, where he met with no enemy capable of oppoſing his progreſs. The Carthaginians then, ſeeing themſelves on the brink of deſtruction, were obliged to recal their armies from Italy, in order to ſave their city. Mago, who had entered Inſubria, was defeated by the Roman forces there; and having retreated into the maritime parts of Liguria,
145 Mago and Hannibal recalled. met a courier who brought him orders to return directly to Carthage. At the ſame time, Hannibal was likewiſe recalled. When the meſſengers acquainted him with the ſenate's pleaſure, he expreſſed the utmoſt indignation and concern, groaning, gnaſhing his teeth, and ſcarce refraining from tears. Never baniſhed man, according to Livy, ſhowed ſo much regret in quitting his native country, as Hannibal did at going out of that of the enemy.

146 Hannibal's proceedings after his arrival in Africa. The Carthaginian general was no ſooner landed in Africa, than he ſent out parties to get proviſions for the army, and buy horſes to remount the cavalry. He entered into a league with the Regulus of the Areacidæ, one of the Numidian tribes. Four thouſand of Syphax's horſe came over in a body to him; but as he did not think proper to repoſe any confidence in them, he put them all to the ſword, and diſtributed their horſes among his troops. Vermina, one of Syphax's ſons, and Maſetulus, another Numidian prince, likewiſe joined him with a conſiderable body of horſe. Moſt of the fortreſſes in Maſiniſſa's kingdom either ſurrendered to him upon the firſt ſummons, or were taken by force. Narce, a city of conſiderable note there, he made himſelf maſter of by ſtratagem. Tychæus, a Numidian Regulus, and faithful ally of Syphax, whoſe territories were famous for an excellent breed of horſes, reinforcing him alſo with 2000 of his beſt cavalry, Hannibal advanced to Zama, a town about five days journey diſtant from Carthage, where he encamped. He thence ſent out ſpies to obſerve the poſture of the Romans. Theſe being brought to Scipio, he was ſo far from inflicting any puniſhment upon them, which he might have done by the laws of war, that he commanded them to be led about the camp, in order to take an exact ſurvey of
147 He has an interview with Scipio. it, and then diſmiſſed them. Hannibal, admiring the noble aſſurance of his rival, ſent a meſſenger to deſire an interview with him; which, by means of Maſiniſſa, he obtained. The two generals, therefore, eſcorted by equal detachments of horſe, met at Nadagara, where, by the aſſiſtance of two interpreters, they held a private conference. Hannibal flattered Scipio in the moſt refined and artful manner, and expatiated upon all thoſe topics which he thought could influence that general to grant his nation a peace upon tolerable terms; amongſt other things, that the Carthaginians would willingly confine themſelves to Africa, ſince ſuch was

Carthage. the will of the gods, in order to procure a laſting peace, whilſt the Romans would be at liberty to extend their conqueſt to the remoteſt nations. Scipio anſwered, that the Romans were not prompted by ambition, or any ſiniſter views, to undertake either the former or preſent war againſt the Carthaginians; but by juſtice, and a proper regard for their allies. He alſo obſerved, that the Carthaginians had, before his arrival in Africa, not only made him the ſame propoſals, but likewiſe agreed to pay the Romans 5000 talents of ſilver, reſtore all the Roman priſoners without ranſom, and deliver up all their galleys. He inſiſted on the perfidious conduct of the Carthaginians, who had broke a truce concluded with them; and told him, that, ſo far from granting them more favourable terms, they ought to expect more rigorous ones; which if Hannibal would ſubmit to, a peace would enſue; if not, the deciſion of the diſpute muſt be left to the ſword.

148 The battle of Zama. This conference, betwixt two of the greateſt generals the world ever produced, ending without ſucceſs, they both retired to their reſpective camps; where they informed their troops, that not only the fate of Rome and Carthage, but that of the whole world, was to be determined by them the next day. An engagement enſued *, in which, as Polybius informs us, the ſurpriſing military genius of Hannibal diſplayed itſelf in an extraordinary manner. Scipio likewiſe, according to Livy, paſſed an high encomium upon him, on account of his uncommon capacity in taking advantages, the excellent arrangement of his forces, and the manner in which he gave his orders during the engagement. The Roman general indeed, not only approved his conduct, but openly declared that it was ſuperior to his own. Nevertheleſs, being vaſtly inferior to the enemy in horſe, and the ſtate of Carthage obliging him to hazard a battle with
149 Hannibal totally routed. the Romans at no ſmall diſadvantage, Hannibal was utterly routed, and his camp taken. He fled firſt to Thon, and afterwards to Adrumentum, from whence he was recalled to Carthage; where being arrived, he adviſed his countrymen to conclude a peace with Scipio on whatever terms he thought proper to preſcribe.

* See Zama.

150 Peace concluded. Thus was the ſecond war of the Carthaginians with the Romans concluded. The conditions of peace were very humiliating to the Carthaginians. They were obliged to deliver up all the Romans deſerters, fugitive ſlaves, priſoners of war, and all the Italians whom Hannibal had obliged to follow him. They alſo delivered up all their ſhips of war, except ten triremes, all their tame elephants, and were to train up no more of theſe animals for the ſervice. They were not to engage in any war without the conſent of the Romans. They engaged to pay to the Romans, in 50 years, 10,000 Euboic talents, at equal payments. They were to reſtore to Maſiniſſa all they had uſurped from him or his anceſtors, and to enter into an alliance with him. They were alſo to aſſiſt the Romans both by ſea and land, whenever they were called upon ſo to do, and never to make any levies either in Gaul or Liguria. Theſe terms appeared ſo intolerable to the populace, that they threatened to plunder and burn the houſes of the nobility; but Hannibal having aſſembled a body of 6000 foot and 500 horſe at Marthama, prevented an

Carthage. insurrection, and by his influence completed the accommodation.

151 Carthaginians oppreſſed by Maſiniſſa.

The peace between Carthage and Rome was ſcarce ſigned, when Maſiniſſa unjuſtly made himſelf maſter of part of the Carthaginian dominions in Africa, under pretence that theſe formerly belonged to his family. The Carthaginians, through the villanous mediation of the Romans, found themſelves under a neceſſity of ceding theſe countries to that ambitious prince, and of entering into an alliance with him. The good underſtanding between the two powers continued for many years afterwards; but at laſt Maſiniſſa violated the treaties ſubſiſting betwixt him and the Carthaginian republic, and not a little contributed to its ſubverſion.

After the concluſion of the peace, Hannibal ſtill kept up his credit among his countrymen. He was intruſted with the command of an army againſt ſome neighbouring nations in Africa; but this being diſagreeable to the Romans, he was removed from it, and raiſed to the dignity of prætor in Carthage. Here he continued for ſome time, reforming abuſes, and putting the affairs of the republic into a better condition; but this likewiſe being diſagreeable to the Romans, he was obliged to fly to Antiochus king of Syria. After his flight, the Romans began to look upon the Carthaginians with a ſuſpicious eye; though, to prevent every thing of this kind, the latter had ordered two ſhips to purſue Hannibal, had confiſcated his effects, raſed his houſe, and by a public decree declared him an exile. Soon after, diſputes ariſing between the Carthaginians and Maſiniſſa, the latter, notwithſtanding the manifeſt iniquity of his proceedings, was ſupported by the Romans. That prince, graſping at further conqueſts, endeavoured to embroil the Carthaginians with the Romans, by aſſerting that the former had received ambaſſadors from Perſeus king of Macedon; that the ſenate aſſembled in the temple of Æſculapius in the night-time in order to confer with them; and that ambaſſadors had been diſpatched from Carthage to Perſeus, in order to conclude an alliance with him. Not long after this, Maſiniſſa made an irruption into the province of Tyſca, where he ſoon poſſeſſed himſelf of 70, or, as Appian will have it, 50 towns and caſtles. This obliged the Carthaginians to apply with great importunity to the Roman ſenate for redreſs, their hands being ſo tied up by an article in the laſt treaty, that they could not repel force by force, in caſe of an invaſion, without their conſent. Their ambaſſadors begged, that the Roman ſenate would ſettle once for all what dominions they were to have, that they might from thenceforth know what they had to depend upon; or if their ſtate had any way offended the Romans, they begged that they would puniſh them themſelves, rather than leave them expoſed to the inſults and vexations of ſo mercileſs a tyrant. Then proſtrating themſelves on the earth, they burſt out into tears. But, notwithſtanding the impreſſion their ſpeech made, the matter was left undecided; ſo that Maſiniſſa had liberty to purſue his rapines as much as he pleaſed. But whatever villanous deſigns the Romans might have with regard to the republic of Carthage, they affected to ſhow a great regard to the principles of juſtice and honour. They therefore ſent Cato, a man famous for committing enormities under the ſpecious pretence of public ſpirit, into Africa, to accommodate all differences betwixt Maſiniſſa and the Carthaginians. The latter very well knew their fate, had they ſubmitted to ſuch a mediation; and therefore appealed to the treaty concluded with Scipio, as the only rule by which their conduct and that of their adverſary ought to be examined. This *unreaſonable* appeal ſo incenſed the righteous Cato, that he pronounced them a devoted people, and from that time reſolved upon their deſtruction. For ſome time he was oppoſed by Scipio Naſica; but the people of Carthage, knowing the Romans to be their inveterate enemies, and reflecting upon the iniquitous treatment they had met with from them ever ſince the commencement of their diſputes with Maſiniſſa, were under great apprehenſions of a viſit from them. To prevent a rupture as much as poſſible, by a decree of the ſenate, they impeached Aſdrubal general of the army, and Carthalo commander of the auxiliary forces, together with their accomplices, as guilty of high treaſon, for being the authors of the war againſt the king of Numidia. They ſent a deputation to Rome, to diſcover what ſentiments were entertained there of their late conduct, and to know what ſatisfaction the Romans required. Theſe meſſengers meeting with a cold reception, others were diſpatched, who returned with the ſame ſucceſs. This made the unhappy citizens of Carthage believe that their deſtruction was reſolved upon; which threw them into the utmoſt deſpair. And indeed they had but too juſt grounds for ſuch a melancholy apprehenſion, the Roman ſenate now diſcovering an inclination to fall in with Cato's meaſures. About the ſame time, the city of Utica, being the ſecond in Africa, and famous for its immenſe riches, as well as its equally commodious and capacious port, ſubmitted to the Romans. Upon the poſſeſſion of ſo important a fortreſs, which, by reaſon of its vicinity to Carthage, might ſerve as a place of arms in the attack of that city, the Romans declared war againſt the Carthaginians without the leaſt heſitation. In conſequence of this declaration, the conſuls M. Manlius Nepos, and L. Marcius Cenſorinus, were diſpatched with an army and fleet to begin hoſtilities with the utmoſt expedition. The land forces conſiſted of 80,000 foot and 4000 choſen horſe; and the fleet of 50 quinqueremes, beſides a vaſt number of tranſports. The conſuls had ſecret orders from the ſenate not to conclude the operations but by the deſtruction of Carthage, without which, it was pretended, the republic could not but look upon all her poſſeſſions as inſecure. Purſuant to the plan they had formed, the troops were firſt landed at Lilybæum in Sicily, from whence, after receiving a proper refreſhment, it was propoſed to tranſport them to Utica.

152 Hannibal flies to Antiochus.

153 Iniquitous proceedings of Maſiniſſa and the Romans.

154 War declared by the Romans againſt Carthage.

The anſwer brought by the laſt ambaſſadors to Carthage had not a little alarmed the inhabitants of that city. But they were not yet acquainted with the reſolutions taken at Rome. They therefore ſent freſh ambaſſadors thither, whom they inveſted with full powers to act as they thought proper for the good of the republic, and even to ſubmit themſelves without reſerve to the pleaſure of the Romans. But the moſt ſenſible perſons among them did not expect any great ſucceſs from this condeſcenſion, ſince the early

155 Ambaſſadors ſent to Rome.

Carthage. submiſſion of the Uticans had rendered it infinitely leſs meritorious than it would have been before. However, the Romans ſeemed to be in ſome meaſure ſatisfied with it, ſince they promiſed them their liberty, the enjoyment of their laws, and in ſhort every thing that was dear and valuable to them. This threw them into a tranſport of joy, and they wanted words to extol the moderation of the Romans. But the ſenate immediately daſhed all their hopes, by acquainting them, that this favour was granted upon condition that they would ſend 300 young Carthaginian noblemen of the firſt diſtinction to the prætor Fabius at Lilybæum, within the ſpace of 30 days, and comply with all the orders of the conſuls. Theſe hard terms filled the whole city with inexpreſſible grief: but the hoſtages were delivered; and as they arrived at Lilybæum before the 30 days were expired, the ambaſſadors were not without hopes of ſoftening their hard-hearted enemy. But the conſuls only told them, that upon their arrival at Utica they ſhould learn the farther orders of the republic.

156 The Romans demand 300 hoſtages,

The miniſters no ſooner received intelligence of the Roman fleet appearing off Utica, than they repaired thither, in order to know the fate of their city. The conſuls, however, did not judge it expedient to communicate all the commands of their republic at once, leſt they ſhould appear ſo harſh and ſevere, that the Carthaginians would have refuſed to comply with them. They firſt, therefore, demanded a ſufficient ſupply of corn for the ſubſiſtence of their troops. Secondly, That they ſhould deliver up into their hands all the triremes they were then maſters of. Thirdly, That they ſhould put them in poſſeſſion of all their military machines. And fourthly, That they ſhould immediately convey all their arms into the Roman camp.

157 And all the Carthaginian arms, military machines, &c.

As care was taken that there ſhould be a convenient interval of time betwixt every one of theſe demands, the Carthaginians found themſelves enſnared, and could not reject any one of them, though they ſubmitted to the laſt with the utmoſt reluctance and concern. Cenſorinus now imagining them incapable of ſuſtaining a ſiege, commanded them to abandon their city, or, as Zonaras will have it, to demoliſh it; permitting them to build another 80 ſtadia from the ſea, but without walls or fortifications. This terrible decree threw the ſenate and every one elſe into deſpair; and the whole city became a ſcene of horror, madneſs, and confuſion. The citizens curſed their anceſtors for not dying gloriouſly in the defence of their country, rather than concluding ſuch ignominious treaties of peace, that had been the cauſe of the deplorable condition to which their poſterity was then reduced. At length, when the firſt commotion was a little abated, the ſenators aſſembled, and reſolved to ſuſtain a ſiege.

158 They command them to deſtroy their city.

159 The Carthaginians reſolve to ſuſtain a ſiege.

They were ſtripped of their arms and deſtitute of proviſions; but deſpair raiſed their courage, and made them find out expedients. They took care to ſhut the gates of the city; and gathered together on the ramparts great heaps of ſtones, to ſerve them inſtead of arms in caſe of a ſurpriſe. They took the malefactors out of priſon, gave the ſlaves their liberty, and incorporated them in the militia. Aſdrubal was recalled, who had been ſentenced to die only to pleaſe the Romans; and he was invited to employ 20,000 men he had raiſed againſt his country, in defence of it. Another Aſdrubal was appointed to command in Carthage; and all ſeemed reſolute, either to ſave their city or periſh in its ruins. They wanted arms; but, by order of the ſenate, the temples, porticoes, and all public buildings, were turned into workhouſes, where men and women were continually employed in making arms. As they encouraged one another in their work, and loſt no time in procuring to themſelves the neceſſaries of life, which were brought to them at ſtated hours, they every day made 144 bucklers, 300 ſwords, 1000 darts, and 500 lances and javelins. As to baliſtæ and catapultæ, they wanted proper materials for them; but their induſtry ſupplied that defect. Where iron and braſs were wanting, they made uſe of ſilver and gold, melting down the ſtatues, vaſes, and even the utenſils of private families; for, on this occaſion, even the moſt covetous became liberal. As tow and flax were wanting to make cords for working the machines, the women, even thoſe of the firſt rank, freely cut off their hair and dedicated it to that uſe. Without the walls, Aſdrubal employed the troops in getting together proviſions, and conveying them ſafe into Carthage; ſo that there was as great plenty there as in the Roman camp. Carthage. 160 They make new arms.

In the mean time the conſuls delayed drawing near to Carthage, not doubting but the inhabitants, whom they imagined deſtitute of neceſſaries to ſuſtain a ſiege, would, upon cool reflection, ſubmit; but at length, finding themſelves deceived in their expectation, they came before the place and inveſted it. As they were ſtill perſuaded that the Carthaginians had no arms, they flattered themſelves that they ſhould eaſily carry the city by aſſault. Accordingly they approached the walls in order to plant their ſcaling-ladders; but to their great ſurpriſe they diſcovered a prodigious multitude of men on the ramparts, ſhining in the armour they had newly made. The legionaries were ſo terrified at this unexpected ſight, that they drew back, and would have retired, if the conſuls had not led them on to the attack: which, however, proved unſucceſsful; the Romans, in ſpite of their utmoſt efforts, being obliged to give over the enterprize, and lay aſide all thoughts of taking Carthage by aſſault. In the mean time Aſdrubal, having collected from all places ſubject to Carthage a prodigious number of troops, came and encamped within reach of the Romans, and ſoon reduced them to great ſtraits for want of proviſions. As Marcius, one of the Roman conſuls, was poſted near a marſh, the exhalations of the ſtagnating waters, and the heat of the ſeaſon, infected the air, and cauſed a general ſickneſs among his men. Marcius, therefore, ordered his fleet to draw as near the ſhore as poſſible, in order to tranſport his troops to an healthier place. Aſdrubal being informed of this motion, ordered all the old barks in the harbour to be filled with faggots, tow, ſulphur, bitumen, and other combuſtible materials; and then taking advantage of the wind, which blew towards the enemy, let them drive upon their ſhips, which were for the moſt part conſumed. After this diſaſter, Marcius was called home to preſide at the elections; and the Carthaginians looking upon the abſence of one of the conſuls to be a good omen, made a briſk ſally in the night; and would have ſurpriſed the conſul's camp, had not Æmilianus, with ſome ſquadrons, marched out of the

161 The city attacked by the Romans, who are repulſed.

162 Part of the Roman fleet deſtroyed.

Carthage. gate oppoſite to the place where the atttack was made, and, coming round, fell unexpectedly on their rear, and obliged them to return in diſorder to the city.

Aſdrubal had poſted himſelf under the walls of a city named Nepheris, 24 miles diſtant from Carthage, and ſituated on an high mountain, which ſeemed inacceſſible on all ſides. From thence he made incurſions into the neighbouring country, intercepted the Roman convoys, fell upon their detachments ſent out to forage, and even ordered parties to inſult the conſular army in their camp. Hereupon the conſul reſolved to drive the Carthaginian from this advantageous poſt, and ſet out for Nepheris. As he drew near the hills, Aſdrubal ſuddenly appeared at the head of his army in order of battle, and fell upon the Romans with incredible fury. The conſular army ſuſtained the attack with great reſolution; and Aſdrubal retired in good order to his poſt, hoping the Romans would attack him there. But the conſul being now convinced of his danger, reſolved to retire. This Aſdrubal no ſooner perceived, than he ruſhed down the hill, and falling upon the enemy's rear, cut a great number of them in pieces. The whole Roman army was now ſaved by the bravery of Scipio Æmilianus. At the head of 300 horſe, he ſuſtained the attack of all the forces commanded by Aſdrubal, and covered the legions, while they paſſed a river in their retreat before the enemy. Then he and his companions threw themſelves into the ſtream, and ſwam acroſs it. When the army had croſſed the river, it was perceived that four manipuli were wanting; and ſoon after they were informed that they had retired to an eminence, where they reſolved to ſell their lives as dear as poſſible. Upon this news Æmilianus, taking with him a choſen body of horſe, and proviſions for two days, croſſed the river, and flew to the aſſiſtance of his countrymen. He ſeized an hill over againſt that on which the four manipuli were poſted; and, after ſome hours repoſe, marched againſt the Carthaginians who kept them inveſted, fell upon them at the head of his ſquadron with the boldneſs of a man determined to conquer or die, and in ſpite of all oppoſition opened a way for his fellow-ſoldiers to eſcape. On his return to the army, his companions, who had given him over for laſt, carried him to his quarters in a kind of triumph; and the manipuli he had ſaved gave him a crown of *gramen*. By theſe and ſome other exploits, Æmilianus gained ſuch reputation, that Cato, who is ſaid never to have commended any body before, could not refuſe him the praiſes he deſerved; and is ſaid to have foretold that Carthage would never be reduced till Scipio Æmilianus was employed in that expedition.

163 The Roman army, in great danger, is ſaved by Scipio Æmilianus.

The next year, the war in Africa fell by lot to the conſul L. Calpurnius Piſo; and he continued to employ Æmilianus in ſeveral important enterpriſes, in which he was attended with uncommon ſucceſs. He took ſeveral caſtles; and in one of his excurſions, found means to have a private conference with Phameas, general, under Aſdrubal, of the Carthaginian cavalry, and brought him over, together with 2200 of his horſe, to the Roman intereſt. Under the conſul Calpurnius Piſo himſelf, however, the Roman arms were unſucceſsful. He inveſted Clupea; but was obliged to abandon the enterpriſe, with the loſs of a great number of men killed by the enemy in their ſallies.

164 He gains over a Carthaginian general of horſe.

From this place he went to vent his rage on a city Carthage. newly built, and thence called *Neapolis*, which profeſſed a ſtrict neutrality, and had even a ſafeguard from the Romans. The conſul, however, plundered the place, and ſtripped the inhabitants of all their effects. After this he laid ſiege to *Hippagreta*, which employed the Roman fleet and army the whole ſummer; and, on the approach of winter, the conſul retired to Utica, without performing a ſingle action worth notice during the whole campaign.

165 He is choſen conſul.

The next year Scipio Æmilianus was choſen conſul, and ordered to paſs into Africa; and upon his arrival, the face of affairs was greatly changed. At the time of his entering the port of Utica, 3500 Romans were in great danger of being cut in pieces before Carthage. Theſe had ſeized Megalia, one of the ſuburbs of the city: but as they had not furniſhed themſelves with proviſions to ſubſiſt there, and could not retire, being cloſely inveſted on all ſides by the enemy's troops, the prætor Mancinus, who commanded this detachment, ſeeing the danger into which he had brought himſelf, diſpatched a light boat to Utica, to acquaint the Romans there with his ſituation. Æmilianus received this letter a few hours after his landing; and immediately flew to the relief of the beſieged Romans, obliged the Carthaginians to retire within their walls, and ſafely conveyed his countrymen to Utica. Having then drawn together all the troops, Æmilianus applied himſelf wholly to the ſiege of the capital.

His firſt attack was upon Megalia; which he carried by aſſault, the Carthaginian garriſon retiring into the citadel of Byrſa. Aſdrubal, who had commanded the Carthaginian forces in the field, and was now governor of the city, was ſo enraged at the loſs of Megalia, that he cauſed all the Roman captives taken in the two years the war laſted, to be brought upon the ramparts, and thrown headlong, in the ſight of the Roman army, from the top of the wall; after having, with an exceſs of cruelty, commanded their hands and feet to be cut off, and their eyes and tongues to be torn out. He was of a temper remarkably inhuman, and it is ſaid that he even took pleaſure in ſeeing ſome of theſe unhappy men flayed alive. Æmilianus, in the mean time, was buſy in drawing lines of circumvallation and contravallation croſs the neck of land which joined the iſthmus on which Carthage ſtood to the continent. By this means, all the avenues on the land-ſide of Carthage being ſhut up, the city could receive no proviſions that way. His next care was to raiſe a mole in the ſea, in order to block up the old port, the new one being already ſhut up by the Roman fleet; and this great work he effected with immenſe labour. The mole reached from the weſtern neck of land, of which the Romans were maſters, to the entrance of the port; and was 90 feet broad at the bottom and 80 at the top. The beſieged, when the Romans firſt began this ſurpriſing work, laughed at the attempt; but were no leſs alarmed than ſurpriſed, when they beheld a vaſt mole appearing above water, and by that means the port rendered inacceſſible to ſhips, and quite uſeleſs. Prompted by deſpair, however, the Carthaginians, with incredible and almoſt miraculous induſtry, dug a new baſon, and cut a paſſage into the ſea, by which they could receive the proviſions that were ſent them by their troops in the field. With the ſame diligence

166 Cruelties of Aſdrubal.

167 Carthage blocked up by ſea and land.

168 The beſieged dig a new baſon.

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Carthage. ligence and expedition, they fitted out a fleet of 50 triremes; which, to the great ſurpriſe of the Romans, appeared ſuddenly advaneing into the ſea through this new eanal, and even ventured to give the enemy battle. The action laſted the whole day, with little advantage on either ſide. The day after, the conſul endeavoured to make himſelf maſter of a terrace which covered the city on the ſide next the ſea; and on this occaſion the beſieged ſignalized themſelves in a moſt remarkable manner. Great numbers of them, naked and unarmed, went into the water in the dead of the night, with unlighted torches in their hands; and having, partly hy ſwimming, partly by wading, got within reach of the Roman engines, they ſtruck fire, lighted their torches, and threw them with ſury againſt the machines. The ſudden appearance of theſe naked men, who looked like ſo many monſters ſtarted up out of the ſea, ſo terrified the Romans who guarded the machines, that they began to retire in the utmoſt eonfuſion. The conſul, who eommanded the detachment in perſun, and had continued all night at the foot of the terrace, endeavoured to ſtop his men, and even ordered thoſe who fled to be killed. But the Carthaginians, perceiving the confuſion the Romans were in, threw themſelves upon them like ſo many wild beaſts; and having put them to flight only with their torches, they ſet fire to the machines, and entirely conſumed them. This, however, did not diſcourage the eonſul: he renewed the attack a few days after, carried the terrace by aſſault, and lodged 4000 men upon it. Aa this was an important poſt, becauſe it pent in Carthage on the ſea-ſide, Æmilianus took care to fortify and ſeeure it againſt the ſallies of the enemy; and then, winter approaching, he ſuſpended all further attacks upon the place till the return of good weather. During the winter ſeaſon, however, the conſul was not inactive. The Carthaginians had a very numerous army under the eommand of one Diogenes, ſtrongly encamped near Nepheris, whence eonvoys of proviſions were ſent by ſea to the beſieged, and brought into the new baſon. To take Nepheris, therefore, was to deprive Carthage of her chief magazine. This Æmilianus undertook, and ſucceeded in the attempt. He firſt forced the enemy's entrenchments, put 70,000 of them to the ſword, and made 10,000 priſoners; all the inhabitants of the eonntry, who could not retire to Carthage, having taken refuge in this camp. After this, he laid ſiege to Nepheris, which was reduced in 22 days. Aſdrubal being diſheartened by the defeat of the army, and touched with the miſery of the beſieged now reduced to the utmoſt extremity for want of proviſions, offered to ſubmit to what conditions the Romans pleaſed, provided the city was ſpared; but this was abſolutely refuſed.

169 They ſet fire to the Roman machines.

170 Vaſt ſlaughter of the Carthaginians.

Early in the ſpring, Æmilianus renewed the ſiege of Carthage; and in order to open himſelf a way into the city, he ordered Lælius to attempt the reduction of Cotho, a ſmall iſland which divided the two ports. Æmilianus himſelf made a falſe attack on the citadel, in order to draw the enemy thither. This ſtratagem had the deſired effect; for the eitadel being a place of the greateſt importance, moſt of the Carthaginians haſtened thither, and made their utmoſt efforts to repulſe their aggreſſors. But in the mean time Lælius having, with incredible expedition, built a wooden bridge over the channel which divided Cotho from the iſthmus, entered the iſland, ſcaled the walls of the fortreſs which the Carthaginians had built there, and made himſelf maſter of that important poſt. The proconſul, who was engaged before Byrſa, no ſooner underſtood, by the loud ſhouts of the troops of Lælius, that he had made himſelf maſter of Cotho, than he abandoned the falſe attack, and unexpectedly fell on the neighbouring gate of the city, which he broke down, notwithſtanding the ſhowers of darts that were inceſſantly diſcharged upon his men from the ramparts. As night eoming on prevented him from proceeding farther, he made a lodgment within the gate, and waited there for the return of day, with a deſign to advanee through the city to the citadel, and attack it on that ſide which was but indifferently fortified. Purſuant to this deſign, at day-break he ordered 4000 freſh troops to be ſent from his camp, and, having ſolemnly devoted to the infernal gods the unhappy Carthaginians, he began to advance at the head of bis men, through the ſtreets of the city, in order to attack the eitadel. Having advanced to the market-place, he found that the way to the eitadel lay through three exceeding ſteep ſtreets. The houſes on both ſides were very high, and filled with Carthaginians, who overwhelmed the Romans as they advanced with darts and ſtones; ſo that they could not proceed till they had eleared them. To this end Æmilianus in perſon, at the head of a detachment, attacked the firſt houſe, and made himſelf maſter of it ſword in hand. His example was followed by the officers and ſoldiers, who went on from houſe to houſe, putting all they met with to the ſword. As faſt as the houſes were cleared on both ſides, the Romans advaneed in order of battle towards the eitadel; but met with a vigorous reſiſtance from the Carthaginians, who on this occaſion behaved with uncommon reſolution. From the market-place to the eitadel, two bodies of men fought their way every ſtep, one above on the roofs of the houſes, the other below in the ſtreets. The ſlaughter was inexpreſſibly great and dreadful. The air rung with ſhrieks and lamentations. Some were eut in pieces, others threw themſelves down from the tops of the houſes; ſo that the ſtreets were filled with dead and mangled bodies. But the deſtruction was yet greater, when the proconſul commanded fire to be ſet to that quarter of the town which lay next to the citadel. Incredible multitudes, who had eſcaped the ſwords of the enemy, periſhed in the flames, or by the fall of the houſes. After the fire, which laſted ſix days, had demoliſhed a ſufficient number of houſes, Æmilianus ordered the rubbiſh to be removed, and a large area to be made, where all his troops might have room to act. Then he appeared with his whole army before Byrſa; which ſo terrified the Carthaginians, who had fled thither for refuge, that firſt of all 25,000 women, and then 30,000 men, came out of the gates in ſuch a condition as moved pity. They threw themſelves proſtrate before the Roman general, aſking no favour but life. This was readily granted, not only to them, but to all that were in Byrſa, except the Roman deſerters, whoſe number amounted to 900. Aſdrubal's wife earneſtly intreated her huſband to ſuffer her to join the ſuppliants, and carry with her to the proconſul her two ſons, who were as yet very young; but

171 Cotho taken.

172 Romans enter the city.

173 Which is ſet on fire.

174 Cruelty and cowardice of Aſdrubal.

Carthage

but the barbarian denied her requeſt, and rejected her remonſtrances with menaces. The Roman deſerters ſeeing themſelves excluded from mercy, reſolved to die ſword in hand, rather than deliver themſelves up to the vengeance of their countrymen. Then Aſdrubal, finding them all reſolved to defend themſelves to the laſt breath, committed to their care his wife and children; after which he, in a muſt cowardly and mean-ſpirited manner, came and privately threw himſelf at the conqueror's feet. The Carthaginians in the citadel no ſooner underſtood that their commander had abandoned the place, than they threw open the gates, and put the Romans in poſſeſſion of Byrſa. They had now no enemy to contend with but the 900 deſerters; who, being reduced to deſpair, retreated into the temple of Æſculapius, which was as a ſecond temple within the firſt. There the proconſul attacked them; and theſe unhappy wretches, finding there was no way to eſcape, ſet fire to the temple. As the flames ſpread, they retreated from one part of the building to another, till they got to the roof. There Aſdrubal's wife appeared in her beſt apparel, and having uttered the moſt bitter imprecations againſt her huſband, whom ſhe ſaw ſtanding below with Æmilianus, "Baſe coward (ſaid ſhe), the mean things thou haſt done to ſave thy life ſhall not avail thee: thou ſhalt die this inſtant, at leaſt in thy two children." Having thus ſpoken, ſhe ſtabbed both the infants with a dagger; and while they were yet ſtruggling for life, threw them both from the top of the temple, and then leaped down after them into the flames.

175 Aſdrubal's wife deſtroys herſelf and two children.

176 Carthage plundered.

Æmilianus delivered up the city to be plundered, but in the manner preſcribed by the Roman military law. The ſoldiers were allowed to appropriate to themſelves all the furniture, utenſils, and braſs money, they ſhould find in private houſes: but all the gold and ſilver, the ſtatues, pictures, &c. were reſerved to be put into the hands of the quæſtors. On this occaſion the cities of Sicily, which had been often plundered by the Carthaginian armies, recovered a number of ſtatues, pictures, and other valuable monuments: among the reſt, the famous braſen bull, which Phalaris had ordered to be caſt, and uſed as the chief inſtrument of his cruelty, was reſtored to the inhabitants of Agrigentum. As Æmilianus was greatly inclined to ſpare what remained of this ſtately metropolis, he wrote to the ſenate on the ſubject, from whom he received the following orders: 1. The city of Carthage, with Byrſa, and Megalia, ſhall be entirely deſtroyed, and no traces of them left. 2. All the cities that have lent Carthage any aſſiſtance ſhall be diſmantled. 3. The territories of thoſe cities which have declared for the Romans, ſhall be enlarged with lands taken from the enemy. 4. All the lands between Hippo and Carthage ſhall be divided among the inhabitants of Utica. 5. All the Africans of the Carthaginian ſtate, both men and women, ſhall pay an annual tribute to the Romans at ſo much per head. 6. The whole country, which was ſubject to the Carthaginian ſtate, ſhall be turned into a Roman province, and be governed by a prætor, in the ſame manner as Sicily. Laſtly, Rome ſhall ſend commiſſioners into Africa, there to ſettle jointly with the proconſul the ſtate of the new province. Before Æmilianus deſtroyed the city, he performed thoſe religious ceremonies which were required on ſuch occaſions: he firſt ſacrificed to the gods, and then cauſed a plough to be drawn round the walls of the city. After this, the towers, ramparts, walls, and all the works which the Carthaginians had raiſed in the courſe of many ages, and at a vaſt expence, were levelled with the ground; and laſtly, fire was ſet to the edifices of the proud metropolis, which conſumed them all, not a ſingle houſe eſcaping the flames. Though the fire began in all quarters at the ſame time, and burnt with incredible fury, it continued for 17 days before all the buildings were conſumed.

Carthage.

177 And utterly deſtroyed.

Thus fell Carthage, about 146 years before the birth of Chriſt; a city whoſe deſtruction ought to be attributed more to the intrigues of an abandoned faction, compoſed of the moſt profligate part of its citizens, than to the power of its rival. The treaſure Æmilianus carried off, even after the city had been delivered up to be plundered by the ſoldiers, was immenſe, Pliny making it to amount to 4,470,000 pounds weight of ſilver. The Romans ordered Carthage never to be inhabited again, denouncing dreadful imprecations againſt thoſe who, contrary to this prohibition, ſhould attempt to rebuild any part of it, eſpecially Byrſa and Megalia. Notwithſtanding this, however, about 24 years after, C. Gracchus, tribune of the people, in order to ingratiate himſelf with them, undertook to rebuild it; and, to that end, conducted thither a coluny of 6000 Roman citizens. The workmen, according to Plutarch, were terrified by many unlucky omens at the time they were tracing the limits and laying the foundations of the new city; which the ſenate being informed of, would have ſuſpended the attempt. But the tribune, little affected with ſuch preſages, continued to carry on the work, and finiſhed it in a few days. From hence it is probable that only a ſlight kind of huts were erected; but, whether Gracchus executed his deſign, or the work was entirely diſcontinued, it is certain, that Carthage was the firſt Roman colony ever ſent out of Italy. According to ſome authors, Carthage was rebuilt by Julius Cæſar; and Strabo, who flouriſhed in the reign of Tiberius, affirms it in his time to have been equal if not ſuperior to any other city in Africa. It was looked upon as the capital of Africa for ſeveral centuries after the commencement of the Chriſtian æra. Maxentius laid it in aſhes about the ſixth or ſeventh year of Conſtantine's reign. Genſeric, king of the Vandals, took it A. D. 439; but about a century afterwards it was re-annexed to the Roman empire by the renowned Beliſarius. At laſt the Saracens, under Mohammed's ſucceſſors, towards the cloſe of the ſeventh century, ſo completely deſtroyed it, that there are now ſcarce any traces remaining.

1-8 Rebuilt.

179 Utterly deſtroyed by the Saracens.

At the commencement of the third Punic war, Carthage appears to have been one of the firſt cities in the world.—It was ſeated on a peninſula 360 ſtadia or 45 miles in circumference, joined to the continent by an iſthmus 23 ſtadia or three miles and a furlong in breadth. On the weſt ſide there projected from it a long tract of land half a ſtadium broad; which ſhooting out into the ſea, ſeparated it from a lake or moraſs, and was ſtrongly fortified on all ſides by rocks and a ſingle wall. In the middle of the city ſtood the citadel of Byrſa, having on the top of it a temple ſacred

180 Its ancient grandeur.

to

Carthage. to Æſculapius, ſeated upon rocks on a very high hill, to which the aſcent was by 60 ſteps. On the ſouth ſide the city was ſurrounded by a triple wall, 30 cubits high; flanked all round by parapets and towers, placed at equal diſtances of 480 feet. Every tower had its foundation ſunk 32 feet deep, and was four ſtories high, though the walls were but two: they were arched; and, in the lower part, correſponding in depth with the foundations above mentioned, were ſtalls large enough to hold 300 elephants with their fodder, &c. Over theſe were ſtalls and other conveniences for 4000 horſes; and there was likewiſe room for lodging 20,000 foot and 4000 cavalry, without in the leaſt incommoding the inhabitants. There were two harbours, ſo diſpoſed as to have a communication with one another. They had one common entrance 70 feet broad, and ſhut up with chains. The firſt was appropriated to the merchants; and included in it a vaſt number of places of refreſhment, and all kinds of accommodations for ſeamen. The ſecond, as well as the iſland of Cothon, in the midſt of it, was lined with large keys, in which were diſtinct receptacles for ſecuring and ſheltering from the weather 220 ſhips of war. Over theſe were magazines of all ſorts of naval ſtores. The entrance into each of theſe receptacles was adorned with two marble pillars of the Ionic order; ſo that both the harbour and iſland repreſented on each ſide two magnificent galleries. Near this iſland was a temple of Apollo, in which was a ſtatue of the god all of maſſy gold; and the inſide of the temple all lined with plates of the ſame metal, weighing 1000 talents. The city was 23 miles in circumference, and at the time we ſpeak of contained 700,000 inhabitants. Of their power we may have ſome idea, by the quantity of arms they delivered up to the Roman conſuls. The whole army was aſtoniſhed at the long train of carts loaded with them, which were thought ſufficient to have armed all Africa. At leaſt it is certain, that on this occaſion were put into the hands of the Romans, 2000 catapultæ, 200,000 complete ſuits of armour, with an innumerable quantity of ſwords, darts, javelins, arrows, and beams armed with iron which were thrown from the ramparts by the baliſtæ.

The character tranſmitted of the Carthaginians is extremely bad; but we have it only on the authority of the Romans, who being their implacable enemies cannot be much relied upon. As to their religion, manners, &c. being much the ſame with the Phœnicians of which they were a colony, the reader is referred for an account of theſe things to the article PHOENICIA.

On the ruins of Carthage there now ſtands only a ſmall village called *Melcha*. The few remains of Carthage conſiſt only of ſome fragments of walls and 17 ciſterns for the reception of rain-water.

There are three eminences, which are ſo many maſſes of fine marbles pounded together, and were in all probability the ſites of temples and other diſtinguiſhed buildings. The preſent ruins are by no means the remains of the ancient city deſtroyed by the Romans; who after taking it entirely eraſed it, and ploughed up the very foundations: ſo truly they adhered to the well-known advice perpetually inculcated by Cato the Elder, *Delenda eſt Carthago*. It was again rebuilt by the Gracchi family, who conducted a colony to repeople it; and continually increaſing in ſplendour, it became at length the capital of Africa under the Roman emperors. It ſubſiſted near 700 years after its firſt demolition, until it was entirely deſtroyed by the Saracens in the beginning of the 7th century. New-Carthage, Carthagena.

It is a ſingular circumſtance that the two cities of Carthage and Rome ſhould have been built juſt oppoſite one to the other; the bay of Tunis and the mouth of the Tiber being in a direct line.

Littora littoribus contraria, fluctibus undas,
Arma armis. VIRG. Æn. i. 4.

New-CARTHAGE, a conſiderable town of Mexico, in the province of Coſtarica. It is a very rich trading place. W. Long. 86. 7. N. Lat. 9. 5.

CARTHAGENA, a province of South America, and one of the moſt conſiderable in New Caſtile, on account of the great trade carried on by the capital; for the country itſelf is neither fertile, rich, nor populous. The capital city, called likewiſe *Carthagena*, is ſituated in W. Long. 77. N. Lat. 11. on a ſandy iſland, by moſt writers called a peninſula; which, forming a narrow paſſage on the ſouth-weſt, opens a communication with that called *Tierra Bomba*, as far as *Boca Chica*. The little iſland which now joins them was formerly the entrance of the bay; but it having been filled up by orders of the court, Boca Chica became the only entrance: this, however, has been filled up ſince the attempt of Vernon and Wentworth, and the old paſſage again opened. On the north ſide the land is ſo narrow, that, before the wall was begun, the diſtance from ſea to ſea was only 35 toiſes; but afterwards enlarging, it forms another iſland on this ſide; ſo that, excepting theſe two places, the whole city is entirely ſurrounded by ſalt-water. To the eaſtward it has a communication, by means of a wooden bridge, with a large ſuburb called *Xemani*, built on another iſland, which is alſo joined to the continent by a bridge of the ſame materials. The fortifications both of the city and ſuburbs are built after the modern manner, and lined with free-ſtone; and, in time of peace, the garriſon conſiſts of ten companies of 77 men each, beſides militia. The city and ſuburbs are well laid out, the ſtreets ſtraight, broad, uniform, and well paved. All the houſes are built of ſtone or brick, only one ſtory high, well contrived, neat, and furniſhed with balconies and lattices of wood, which is more durable in that climate than iron, the latter being ſoon corroded by the acrimonious quality of the atmoſphere. The climate is exceedingly unhealthy. The Europeans are particularly ſubject to the terrible diſeaſe called the *black vomit*, which ſweeps off multitudes annually on the arrival of the galleons. It ſeldom continues above three or four days; in which time the patient is either dead or out of danger, and if he recovers is never ſubject to a return of the ſame diſtemper. —This diſeaſe has hitherto foiled all the art of the Spaniſh phyſicians; as has alſo the leproſy, which is very common here. At Carthagena, likewiſe, that painful tumour in the legs, occaſioned by the entrance of the *Dracunculus* or Guinea-worm, is very common and troubleſome. Another diſorder peculiar to this country, and to Peru, is occaſioned by a little inſect called *Nigua*, ſo extremely minute, as ſcarce to be viſible to the naked eye. This inſect breeds in the duſt, inſinuates itſelf into the ſoles of the feet and the legs, piercing the ſkin with ſuch ſubtilty, that there is no being

Carthagena Carthamus.

being aware of it, before it has made its way to the flesh. If it is perceived in the beginning, it is extracted with little pain; but having once lodged its head, and pierced the skin, the patient must undergo the pain of an incision, without which a nodus would be formed, and a multitude of insects ingendered, which would soon overspread the foot and leg. One species of the *nigua* is venmmous; and when it enters the toe, an inflammatory swelling, greatly resembling a venereal buho, takes place in the groin.

CARTHAGENA, a sea-port town of Spain in the kingdom of Murcia, and capital of a territory of the same name; built by Asdrubal, a Carthaginian general, and named after Carthage. It has the best harbour in all Spain, but nothing else very considerable; the bishop's see being transferred to Toledo. In 1706 it was taken by Sir John Leak; but the Duke of Berwick retook it afterwards. W. Long. 0. 58. N. Lat. 37. 36.

CARTHAMUS, in botany: A genus of the order of polygamia æqualis, belonging to the syngenesia class of plants, and in the natural method ranking under the 49th order, *Compositæ*. The calyx is ovate, imbricated with scales, close below, and augmented with subovate foliaceous appendices at top.—Of this genus there are nine species; but the only remarkable one is the tinctorius, with a saffron-coloured flower. This is a native of Egypt and some of the warm parts of Asia. It is at present cultivated in many parts of Europe, and also in the Levant, from whence great quantities of it are annually imported into Britain for the purposes of dyeing and painting. It is an annual plant, and rises with a stiff ligneous stalk, about two feet and a half or three feet in height, dividing upwards into many branches, garnished with oval pointed leaves sitting close to the branches. The flowers grow single at the extremity of each branch; the heads of the flowers are large, inclosed in a scaly empalement; each scale is broad at the base, flat, and formed like a leaf of the plant, terminating in a sharp spine. The lower part of the empalement spreads open; but the scales above closely embrace the florets, which are of a fine saffron colour, and are the part used for the purposes above mentioned. The good quality of this commodity is in the colour, which is of a bright saffron hue: and in this the British carthamus very often fails; for if there happens much rain during the time the plants are in flower, the flowers change to a dark or dirty yellow, as they likewise do if the flowers are gathered with any moisture remaining upon them.—The plants are propagated by seeds, which should be sown in drills, at two feet and a half distance from one another, in which the seeds should be scattered singly. The plants will appear in less than a month; and in three weeks or a month after, it will be proper to hoe the ground; at which time the plants should be left six inches distant: after this they will require a second hoeing; when they must be thinned to the distance at which they are to remain. If after this they are hoed a third time, they will require no farther care till they come to flower; when, if the safflower is intended for use, the florets should be cut off from the flowers as they come to perfection: but this must be performed when they are perfectly dry; and then they should be dried in a kiln with a moderate fire, in the same manner as the true saffron. But in those flowers which are propagated for seeds, the florets must be cut off, or the seeds will prove abortive.—The seeds of carthamus have been celebrated as a cathartic; but they operate very slowly, and for the most part disorder the stomach and bowels, especially when given in substance: triturated with distilled aromatic waters, they form an emulsion less offensive, yet inferior in efficacy to the more common purgatives. They are eaten by a species of Egyptian parrot, which is very fond of them; to other birds or beasts they would prove a mortal poison.

Carthusians || Carton.

CARTHUSIANS, a religious order founded in the year 1080, by one Brudo. The Carthusians, so called from the desert of *Chartreux*, the place of their institution, are remarkable for the austerity of their rule. They are not to go out of their cells, except to church, without leave of their superior; nor speak to any person without leave. They must not keep any portion of their meat or drink till next day; their beds are of straw, covered with a felt; their cloathing two hair-cloths, two cowls, two pair of hose, and a cloke, all coarse. In the refectory, they are to keep their eyes on the dish, their hands on the table, their attention on the reader, and their hearts fixed on God. Women are not allowed to come into their churches. It is computed that there are 172 houses of Carthusians; whereof five are of *Nuns*, who practise the same austerities as the Monks. They are divided into 16 provinces, each of which has two visitors. There have been several canonized saints of this order, four cardinals, 70 archbishops and bishops, and a great many very learned writers.

Carthusian-Powder, the same with kermes-mineral. See KERMES.

CARTILAGE, in anatomy, a body approaching to the nature of bones; but lubricous, flexible, and elastic. See ANATOMY.

CARTILAGINOUS, in ichthyology, a title given to all fish whose muscles are supported by cartilages instead of bones; and comprehends the same genera of fish to which Linnæus has given the name of *amphibia nantes*: but the word *amphibia* ought properly to be confined to such animals as inhabit both elements; and can live, without any inconvenience, for a considerable time, either on land or in water; such as tortoises, frogs, and several species of lizards; and, among the quadrupeds, hippopotami, &c. &c. *Brit. Zool.* III 75.

Many of the cartilaginous fish are viviparous, being excluded from an egg, which is hatched within them. The egg consists of a white and a yolk; and is lodged in a case formed of a thick tough substance, not unlike softened horn: such are the eggs of the *ray* and *shark* kinds. Some again differ in this respect, and are oviparous; such is the *sturgeon*, and others.

They breathe either through certain apertures beneath, as in the *rays*; on their sides, as in the *sharks*, &c.; or on the top of the head, as in the *pipe-fish*: for they have not covers to their gills like the bony fish.

CARTMEL, a town of Lancashire in England. It is seated among the hills called Carmel-fells, not far from the sea, and near the river Kent; adorned with a very handsome church, built in the form of a cross like a cathedral. The market is well supplied with corn, sheep, and fish. W. Long. 2. 43. N. Lat. 54. 15.

CARTON, or CARTOON, in painting, a design drawn

Carton, Cartouche.

drawn on ſtrong paper, to be afterwards calked through, and tranſerred on the freſh plaſter of a wall t be painted in freſco. It is alſo uſed for a deſign coloured, for working in moſaic, tapeſtry, &c. The word is from the Italian *Cartoni*, (*carta* "paper," and *oni* "large,") denoting many ſheets of paper paſted on canvas, on which large deſigns are made, whether coloured or with chalks only. Of theſe many are to he ſeen at Rome, particularly hy Domenichino. Thoſe hy Andrea Mantegna, which are at Hampton Court, were made for paintings in the old ducal palace at Mantua. But the moſt famous performances of this ſurt are,

The *Cartoons of Raphael*, ſo deſervedly applauded throughout Europe hy all authors of refined taſte, and all true admirers of the art of deſign, for their varibus and matchleſs merit, particularly with regard to the invention, and to the great and nohle expreſſion of ſueh a variety of eharaćters, eountenanees, and moſt expreſſive attitudes, as they are differently affećted and properly engaged, in every compoſition. Theſe cartoons are ſeven in number, and ſurm only a ſmall part of the ſaered hiſtorieal deſigns executed by this great artiſt, while engaged in the ehambers of the Vatican under the auſpiees of Popea Julius II. and Leo X. When finiſhed, they were ſent to Flanders, to be copied in tapeſtry, for adorning the pontifical apartments: which tapeſtries were not ſent to Rome till ſeveral years after the deeeaſe of Raphael, and even in all probability were not finiſhed and ſent there before the terrible ſack of that city in the time of Clement VII. when Raphael's ſcholars were fled from thenee, and none left to enquire after the original Cartoons, which lay neglećted in the ſtore-rooms of the manufaćtory. The great revolution alſo whieh followed in the Low Countries prevented their being notieed amidſt the entire neglećt of the works of art. It was therefore a moſt fortunate eireumſtance that theſe ſeven eſeaped the wreck of the others, which were torn in pieces, and remain diſperſed as fragments in different eolleetions. Theſe ſeven were purchaſed hy Rubens for Charles I. and they have been ſo roughly handled from the firſt, that holes were pricked for the weavers to pounce the outlines, and other parts almoſt eut through in tracing alſo. In this ſtate perhaps they as fortunately eſcaped the ſale amongſt the royal eollection, hy the diſproportioned appraiſement of theſe ſeven at 300 l. and the nine pieces, being the Triumph of Julius Cæſar, hy Andrea Mantegna, appraiſed at 1000 l. They ſeem to have been taken ſmall notiee of till King William built a gallery, purpoſely to receive them, at Hampton Court; whenee they were moved, on their ſuffering from damps, to the Queen's Palace. They are now at Windſor Caſtle, and open to puhlic inſpection.

CARTOUCHE, in architecture and ſculpture, an ornament repreſenting a ſcroll of paper. It is uſually a flat member, with wavings, to repreſent ſume inſcription, deviee, cipher, or ornament of armoury. They are, in architecture, much the ſame as modillions; only theſe are ſet under the cornice in wainſcotting, and thoſe under the cornice at the eaves of a houſe.

CARTOUCHE, in the military art, a caſe of wood, about three inches thick at the bottom, girt with marlin, holding about four hundred muſket-balls, beſides fix or eight halls of iron, of a pound weight, to be fired out of a hobit, fur the defence of a paſs, &c.

Cartridge || Carver.

A eartouche is ſometimes made of a globular form, and filled with a ball of a pound weight; and ſometimes it is made for the guns, being of a ball of half or quarter a pound weight, according to the nature of the gun, tied in form of a huneh of grapea, on a tompion of wood, and coated over. Theſe were made in the room of partridge-ſhot.

CARTRIDGE, in the military art, a eaſe of paſteboard or parchment, holding the exaćt charge of a fire-arm. Thoſe for muſkets, earahines, and piſtols, hold both the powder and hall for the charge; and thoſe of cannon and mortars are uſually in caſes of paſtehoard or tin, ſometimes of wood, half a foot long, adapted to the caliber of the piece.

Cartridge-Box, a caſe of wood or turned iron, eovered with leather, holding a dozen muſket-cartridges. It is wure upon a belt, and hangs a little luwer than the right pocket-hole.

CARTWRIGHT (William) an eminent divine and poet, born at Northway, near Tewkſbury, in Glouceſterſhire, in September 1611. He finiſhed his education at Oxford; afterwards went into holy orders, and became a moſt florid preaeher in the univerſity. In 1642, he had the place of ſuecentor in the ehurch of Saliſbury; and, in 1643, was choſen junior proctor in the univerſity. He was alſo metaphyſical reader there. Wit, judgment, elocution, a graeeful perſon and behaviour, occaſioned that eneomium of him from dean Fell, "That he was the utmoſt that "man could come to." He was an expert linguiſt; an excellent orator; and at the ſame time was eſteemed an admirable poet. There are extant of his, four plays, and ſome poems. He died in 1643, aged 33.

CARVAGE, *carvagium*, the ſame with Caravcaga.

Henry III. is ſaid to have taken carvage, that is two marks of ſilver of every knight's fee, towards the marriage of his ſiſter Iſabella to the emperor. Carvage could only be impoſed on the tenants *in capite*.

Carvaga alſo denotes a privilege whereby a man is exempted from the ſervice of carrueage.

CARUCATURIUS, in aneient law books, he that held land in ſoccage, or hy plough tenure.

CARUCATE. See Caarucata.

CARVER, a eutter of figures or other devices in wood. See Caaving.

Carvers anſwer to what the Romans called *ſculptores*, who were different from *cælatores*, or engravers, as theſe laſt wrought in metal.

Caavea is alſo an offieer of the table, whoſe buſineſs is to eut up the meat, and diſtribute it to the gueſts. The word is formed from the Latin *carptor*, whieh ſignifiea the ſame. The Romans alſo called him *carpus*, ſometimes *ſciſſor*, *ſcindendi magiſter*, and *ſtructor*.

In the great families at Rome, the carver was an officer of ſome figure. There were maſters to teach them the art regularly, hy means of figures of animals eut in wood. The Greeks alſo had their carvers, called *διαιτηται*, q. d. *deribitores*, or *diſtributors*. In the primitive times, the maſter of the feaſt carved for all his gueſts. Thus in Humer, when Agamemnon's ambaſſadors were entertained at Achilles'a table, the hero

Carui ‖ Carum.

himſelf carved the meat. Of later times, the ſame office on ſolemn occaſions was executed by ſome of the chief men of Sparta. Some derive the cuſtom of diſtributing to every gueſt his portion, from thoſe early ages when the Greeks firſt left off feeding on acorns, and learned the uſe of corn: The new diet was ſo great a delicacy, that to prevent the gueſts from quarrelling about it, it was found neceſſary to make a fair diſtribution.

In Scotland, the king has a hereditary carver in the family of Anſtruther.

CARUI, or Caavi, in botany. See Caaum.

CARVING, in a general ſenſe, the art or act of cutting or faſhioning a hard body, by means of ſome ſharp inſtrument, eſpecially a chiſſel. In this ſenſe carving includes ſtatuary and engraving, as well as cutting in wood.

Caaving, in a more particular ſenſe, is the art of engraving or cutting figures in wood. In this ſenſe *carving*, according to Pliny, is prior both to ſtatuary and painting.

To carve a figure or deſign, it muſt be firſt drawn or paſted on the wood; which done, the reſt of the block, not covered by the lines of the deſign, are to be cut away with little narrow-pointed knives. The wood fitteſt for the uſe is that which is hard, tough, and cloſe, as beech, but eſpecially box: to prepare it for drawing the deſign on, they waſh it over with white-lead tempered in water; which better enables it either to bear ink or the cravon, or even to take the impreſſion by chalking. When the deſign is to be paſted on the wood, this whitening is omitted, and they content themſelves with ſeeing the wood well planed. Then wiping over the printed ſide of the figure with gum tragacanth diſſolved in water, they clap it ſmooth on the wood, and let it dry; which done, they wet it ſlightly over, and fret off the ſurface of the paper gently, till all the ſtrokes of the figure appear diſtinctly. This done, they fall to cutting or carving, as above.

CARUM, in botany: A genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 45th order, *Umbellatæ*. The fruit is ovate, oblong, and ſtriated; the involuerum monophyllous; the petals are carinated or keel-ſhaped below, and emarginated by their inflection.

Species, &c. 1. The carui, or caraway of the ſhops, grows naturally in many places of Britain. It is a biennial plant, which riſes from ſeeds one year, flowers the next, and periſhes ſoon after the ſeeds are ripe. It hath a taper root like a parſnip, but much ſmaller, which runs deep into the ground, ſending out many ſmall fibres, and hath a ſtrong aromatic taſte. From the root ariſes one or two ſmooth, ſolid, channelled ſtalks, about two feet high, garniſhed with winged leaves, having long naked foot-ſtalks. 2. The biſpanicum is alſo a biennial, and is a native of Spain. It riſes with a ſtronger ſtalk than the former, which ſeldom grows more than a foot and half high; but is cloſely garniſhed with fine narrow leaves like thoſe of dill. Both theſe plants are propagated by ſeeds, which ought to be ſown in autumn. Sheep, goats, and ſwine, eat this plant; cows and horſes are not fond of it. Parkinſon ſays, the young roots of caraway are better eating than parſnips. The tender leaves may be boiled with pot herbs. The ſeeds have an aromatic ſmell, and a warm pungent taſte. They are uſed in cakes, incruſted with ſugar, as ſweet-meats, and diſtilled with ſpirituous liquors, for the ſake of the flavour they afford. They are in the number of the four greater hot ſeeds; and frequently employed, as a ſtomachic and carminative, in flatulent colics and the like.

Caruncula ‖ Carv.

CARUNCULA, or caauncla, in anatomy, a term denoting a little piece of fleſh, and applied to ſeveral parts of the human body. Thus,

Caauncuiæ *Myrtiformes*, in anatomy, fleſhy knobs about the ſize of a myrtle berry, ſuppoſed to owe their origin to the breaking of the hymen. See Anatomy, n° 108.

Caauncles in the urethra, proceeding from a gonorrhœa, or an ulceration of the urethra, may be reduced by introducing the aoucia.

CARUS, a ſudden deprivation of ſenſe and motion, affecting the whole body. See (the *Index* ſubjoined to) Medicine.

Caaus (Marcus Aurelius), was raiſed from a low ſtation, by his great merit, to be emperor of Rome in 282. He ſhowed himſelf worthy of the empire; ſubdued its enemies; and gave the Romans a proſpect of happy days, when he was unfortunately killed by lightning in 284.

CARWAR, a town of Aſia, on the coaſt of Malabar in the Eaſt Indies, and where the Eaſt India company have a factory, fortified with two baſtions. The valleys about it abound in corn and pepper, which laſt is the beſt in the Eaſt Indies. The woods on the mountains abound with quadrupeds, ſuch as tygers, wolves, monkeys, wild hogs, deer, elks, and a ſort of beeves of a prodigious ſize. The religion of the natives is Paganiſm; and they have a great many ſtrange and ſuperſtitious cuſtoms. E. Long. 73. 7. N. Lat. 15. 0.

CARYA-Æ, (Stephanus): *Carya*, *arum*, (Pauſanias); a town of Laconia, between Sparta and the borders of Meſſenia: where ſtood a temple of Diana, thence called *Caryatis*, *idis*; whoſe annual feſtival, called *Carya*, *orum*, was celebrated by Spartan virgins with dances. An inhabitant, *Caryates*, and *Caryatis*; *Caryatis apis*, a Laconian bee, (Stephanus.)

Caryæ-arum, (anc. geog.), a place in Arcadia, towards the borders of Laconia. Whether from this of Arcadia, or that of Laconia, the *Columnæ Caryatides* of Vitruvius and Pliny (which were ſtatues of matrons in ſtoles or long robes) took the appellation, is diſputed.

CARY (Lucius), Lord viſcount Falkland, was born in Oxfordſhire, about the year 1610; a young nobleman of great abilities and accompliſhments. About the time of his father's death in 1633, he was made gentleman of the privy chamber to king Charles I. and afterwards ſecretary of ſtate. Before the aſſembling of the long parliament, he had devoted himſelf to literature, and every pleaſure which a fine genius, a generous diſpoſition, and an opulent fortune, could afford: when called into public life, he ſtood foremoſt in all attacks on the high prerogatives of the crown; but when civil convulſions came to an extremity, and it was neceſſary to chooſe a ſide, he tempered his zeal, and

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Cary. Caryates.

and defended the limited powers that remained to monarchy. Still anxious however for his country, he seems to have dreaded equally the prosperity of the royal party, or that of the parliament; and among his intimate friends, often sadly reiterated the word *peace*. This excellent nobleman freely exposed his person for the king in all hazardous enterprizes, and was killed in the 34th year of his age at the battle of Newberry. In Welwood's memoirs we are told, that whilst he was with the king at Oxford, his majesty went one day to see the public library, where he was shown among other books a Virgil, nobly printed, and exquisitely bound. The lord Falkland, to divert the king, would have his majesty make a trial of his fortune by the Sortes Virgilianæ, an usual kind of divination in ages past, made by opening a Virgil. The king opening the book, the passage which happened to come up, was that part of Dido's imprecation against Æneas, iv. 615, &c. which is thus translated by Dryden.

" Oppress'd with numbers in th' unequal field,
" His men discourag'd, and himself expell'd;
" Let him for succour sue from place to place,
" Torn from his subjects and his son's embrace," &c.

King Charles seeming concerned at this accident, the lord Falkland, who observed it, would likewise try his own fortune in the same manner; hoping he might fall upon some passage that could have no relation to his case, and thereby divert the king's thoughts from any impression the other might make upon him: but the place lord Falkland stumbled upon was yet more suited to his destiny than the other had been to the king's; being the following expressions of Evander, upon the untimely death of his son Pallas, Æn. xi. 152.

" O Pallas! thou hast fail'd thy plighted word.
" To fight with caution, not to tempt the sword,
" I warn'd thee, but in vain: for well I knew
" What perils youthful ardour would pursue;
" That boiling blood would carry thee too far;
" Young as thou wert in dangers, raw to war.
" O curst essay of arms, disastrous doom,
" Prelude of bloody fields and fights to come!"

He wrote several things, both poetical and political; and in some of the king's declarations, supposed to be penned by lord Falkland, we find the first regular definition of the English constitution that occurs in any composition published by authority. His predecessor, the first viscount Cary, was ennobled for being the first who gave king James an account of queen Elizabeth's death.

Cary (Robert), a learned English chronologer, born in Devonshire about the year 1615. On the restoration, he was preferred to the archideaconry of Exeter; but on some pretext was ejected in 1664, and spent the rest of his days at his rectory of Portlemouth, where he died in 1688. He published *Palælogia Chronica*, a chronology of ancient times, in three parts, didactical, apodeictical, and canonical; and translated the hymns of the church into Latin verse.

CARYATES, in antiquity, a festival in honour of Diana surnamed *Caryatis*, held at Caryum, a city of Laconia. The chief ceremony was a certain dance said to have been invented by Castor and Pollux, and performed by the virgins of the place. During Xerxes's invasion, the Laconians not daring to appear and celebrate the customary solemnity, to prevent incurring the anger of the goddess by such an intermission, the neighbouring swains are said to have assembled and sung pastorals or *bucolisms*, which is said to have been the origin of *bucolic* poetry.

Caryatides ‖ Caryophyllæi.

CARYATIDES, or Caryates. See Architecture, n° 56.

CARYL (Joseph), a divine of the last century, bred at Oxford, and some time preacher to the society of Lincoln's inn, an employment he filled with much applause. He became a frequent preacher before the long parliament, a licenser of their books, one of the assembly of divines, and one of the triers for the approbation of ministers; in all which capacities he showed himself a man of considerable parts and learning, but with great zeal against the king's person and cause. On the restoration of Charles II. he was silenced by the act of uniformity, and lived privately in London, where, besides other works, he distinguished himself by a laborious *Exposition of the Book of Job*; and died in 1672.

CARYLL (John), a late English poet, was of the Roman Catholic persuasion, being secretary to queen Mary the wife of James II. and one who followed the fortunes of his abdicating master; who rewarded him, first with knighthood, and then with the honorary titles of earl Caryll and baron Dartford. How long he continued in that service is not known; but he was in England in the reign of queen Anne, and recommended the subject of the "Rape of the Lock" to Mr Pope, who at its publication addressed it to him. He was also the intimate friend of Pope's "Unfortunate Lady." He was the author of two plays: 1. "The English Princess, or the Death of Richard III. 1667," 4to.; 2. "Sir Salomon, or the Cautious Coxcomb, 1671," 4to.; and in 1700, he published "The Psalms of David, translated from the Vulgat," 8vo. In Tonson's edition of Ovid's Epistles, that of "Briseis to Achilles" is said to be by Sir John Caryll; and in Nichols's Select Collection of Miscellany Poems, vol. II. p. 1. the first Eclogue of Virgil is translated by the same ingenious poet. He was living in 1717, and at that time must have been a very old man. See three of his letters in the "Additions to Pope," vol. II. p. 114.

CARYOCAR, in botany: A genus of the tetragynia order, belonging to the polyandria class of plants. The calyx is quinquepartite, the petals five, the styles more frequently four. The fruit is a plum, with necleusses, and four furrows netted.

CARYOPHYLLÆI, in botany, the name of a very numerous family or order in Linnæus's fragments of a natural method: containing, besides the class of the same name in Tournefort, many other plants, which from their general appearance seem pretty nearly allied to it. The following are the genera, *viz.* Agrostema, Cucubalus, Dianthus, Drypis, Gypsophila, Lychnis, Saponaria, Silene, Velazia, Alsine, Arenaria, Bufonia, Cerastium, Cherleria, Glinus, Holosteum, Loeflingia, Mochringia, Polycarpon, Sagina, Spergula, Stellaria, Minuartia, Mollugo, Ortegia, Pharnaceum, Queria. All the plants of this order are herbaceous,

Caryophyllus

and moſtly annual. Some of the creeping kinds do not riſe an inch, and the talleſt exceed not ſeven or eight feet. See BOTANY, ſect. vi. 22.

CARYOPHYLLUS, the PINK, in botany. See DIANTHUS.

CARYOPHYLLUS, the CLOVE TREE, in botany: A genus of the monogynia order, belonging to the polyandria claſs of plants; and in the natural method ranking under the 19th order, *Heſperidæ*. The corolla is tetrapetalous; the calyx tetraphyllous; the berry monoſpermous below the receptacle of the flower. Of this there is but one ſpecies, viz. the aromaticus, which is a native of the Molucca iſlands, particularly of Amboyna, where it is principally cultivated. The clove-tree reſembles, in its bark, the olive; and is about the height of the laurel, which it alſo reſembles in its leaves. No verdure is ever ſeen under it. It has a great number of branches, at the extremities of which are produced vaſt quantities of flowers, that are firſt white, then green, and at laſt pretty red and hard. When they arrive at this degree of maturity, they are, properly ſpeaking, *cloves*. As they dry, they aſſume a dark yelloviſh caſt; and, when gathered, become of a deep brown. The ſeaſon for gathering the cloves is from October to February. The boughs of the trees are then ſtrongly ſhaken, or the cloves beat down with long reeds. Large cloths are ſpread to receive them, and they are afterwards either dried in the ſun or in the ſmoke of the bamboo-cane. The cloves which eſcape the notice of thoſe who gather them, or are purpoſely left upon the tree, continue to grow till they are about an inch in thickneſs; and theſe falling off, produce new plants, which do not bear in leſs than eight or nine years. Thoſe which are called *mother-cloves* are inferior to the common ſort; but are preſerved in ſugar by the Dutch; and, in long voyages, eat after their meals, to promote digeſtion.

The clove, to be in perfection, muſt be full ſized, heavy, oily, and eaſily broken; of a fine ſmell, and of a hot aromatic taſte, ſo as almoſt to burn the throat. It ſhould make the fingers ſmart when handled, and leave an oily moiſture upon them when preſſed. In the Eaſt Indies, and in ſome parts of Europe, it is ſo much admired as to be thought an indiſpenſable ingredient in almoſt every diſh. It is put into their food, liquors, wines, and enters likewiſe the compoſition of their perfumes. Conſidered as medicines, cloves are very hot, ſtimulating, aromatics; and poſſeſs in an eminent degree the general virtues of ſubſtances of this claſs. Their pungency reſides in their reſin; or rather in a combination of reſin with eſſential oil: for the ſpirituous extract is very pungent; but if the oil and the reſin contained in this extract are ſeparated from each other by diſtillation, the oil will be very mild; and any pungency which it does retain, proceeds from ſome ſmall portion of adhering reſin, and the remaining reſin will be inſipid. No plant, or part of any plant, contains ſuch a quantity of oil as cloves do. From 16 ounces Newman obtained by diſtillation two ounces and two drams, and Hoffman obtained an ounce and an half of oil from two ounces of the ſpice. The oil is ſpecifically heavier than water. Cloves acquire weight by imbibing water; and this they will do at ſome conſiderable diſtance. The Dutch, who trade in cloves, make a conſiderable advantage by knowing this ſecret. They ſell them always by weight; and when a bag of cloves is ordered, they hang it, for ſeveral hours before it is ſent in, over a veſſel of water, at about two feet diſtance from the ſurface. This will add many pounds to the weight, which the unwary purchaſer pays for on the ſpot. This is ſometimes practiſed in Europe, as well as in the ſpice iſlands: but the degree of moiſture muſt be more carefully watched in the latter; for there a bag of cloves will, in one night's time, attract ſo much water, that it may be preſſed out of them by ſqueezing them with the hand.

Caryo-phyllus Casa-Nova

The clove tree is never cultivated in Europe. At Amboyna the company have allotted the inhabitants 4000 parcels of land, on each of which they were at firſt allowed, and about the year 1720 compelled, to plant about 125 trees, amounting in all to 500,000. Each of theſe trees produces annually on an average more than two pounds of cloves; and conſequently the collective produce muſt weigh more than a million. The cultivator is paid with the ſpecie that is conſtantly returned to the company, and receives ſome unbleached cottons which are brought from Coromandel.

CARYOTA, in botany: A genus belonging to the natural order of *Palmæ*. The male calyx is common, the corolla tripartite; the ſtamina very numerous: the female calyx the ſame; the corolla tripertite; one peſtil, and a diſpermous berry.

CASA, in ancient and middle-age writers, is uſed to denote a cottage or houſe.

Caſa Santa, denotes the chapel of the holy virgin at Loretto.—The *Santa Caſa* is properly the houſe, or rather chamber, in which the bleſſed virgin is ſaid to have been born, where ſhe was betrothed to her ſpouſe Joſeph, where the angel ſaluted her, the Holy Ghoſt overſhadowed her, and by conſequence where the Son of God was conceived or incarnated. Of this building the Catholics tell many wonderful ſtories too childiſh to tranſcribe. The *Santa Caſa* or holy chamber conſiſts of one room, forty-four ſpans long, eighteen broad, and twenty-three high. Over the chimney, in a niche, ſtands the image called the great *Madona* or Lady, four feet high, made of cedar, and, as they ſay, wrought by St Luke, who was a carver as well as a phyſician. The mantle or robe ſhe has on, is covered with innumerable jewels of ineſtimable value. She has a crown, given her by Louis XIII. of France, and a little crown for her ſon.

CASAL, a ſtrong town of Italy in Mountferrat, with a citadel and a biſhop's ſee. It was taken by the French from the Spaniards in 1640; and the duke of Mantua ſold it to the French in 1681. In 1695 it was taken by the allies, who demoliſhed the fortifications; but the French retook it, and fortified it again. The king of Sardinia became maſter of it in 1706, from whom the French took it in 1745; however, the king of Sardinia got poſſeſſion again in 1746. It is ſeated on the river Po, in E. Long. 8. 37. N. Lat. 54. 7.

Caſal-Maggiore, a ſmall ſtrong town of Italy, in the ducby of Milan, ſeated on the river Po. E. Long. 11. 5. N. Lat. 45. 6.

CASA-NOVA (Marc Antony), a Latin poet, born

Cafan ‖ Cafaubon.

at Rome, fucceeded particularly in epigrams. The poems he compofed in honour of the illuftrious men of Rome are alfo much eſteemed. He died in 1527.

CASAN, a conſiderable town of Aſia, and capital of a kingdom of the ſame name in the Ruſſian empire, with a ſtrong caſtle, a citadel, and an archbiſhop's ſee. The country about it is very fertile in all ſorts of fruits, corn, and pulſe. It carries on a great trade in furs, and furniſhes wood for the building of ſhips. The kingdom of Caſan is bounded on the north by Pernia, on the eaſt by Siberia, on the ſouth by the river Wolga, and on the weſt by the province of Moſcow. E. Long. 53. 25. N. Lat. 55. 38.

CASAS (Bartholomew de las), biſhop of Chiapa, diſtinguiſhed for his humanity and zeal fur the converſion of the Indians, was born at Seville in 1474; and went with his father, who failed to America with Chriſtopher Columbus in 1493. At his return to Spain he embraced the ſtate of an eccleſiaſtic, and obtained a curacy in the iſland uf Cuba; but ſome time after quitted his cure in order to procure liberty for the Indians, whom he ſaw treated by the Spaniards in the moſt cruel and barbarous manner, which naturally gave them an unconquerable averſion to Chriſtianity. Bartholomew exerted himſelf with extraordinary zeal, for 50 years together, in his endeavours to perſuade the Spaniards that they ought to treat the Indians with equity and mildneſs; fur which he ſuffered a number of perſecutions from his countrymen. At laſt the court, moved by his continual remonſtrances, made laws in favour of the Indians, and gave orders to the governors to obſerve them, and ſee them executed *. He died at Madrid in 1566, aged 92. He wrote ſeveral works, which breathe nothing but humanity and virtue. The principal of them are, 1. An account of the deſtruction of the Indies. 2. Several treatiſes in favour of the Indies, againſt Dr Sepulveda, who wrote a book to juſtify the inhuman barbarities committed by the Spaniards. 3. A very curious, and now ſcarce, work in Latin, on this queſtion, "Whether kings or princes can, conſiſtently with conſcience, or in virtue of any right or title, alienate their ſubjects, and place them under the dominion of another ſovereign?"

* See the article *Mexico*.

CASATI (Paul), a learned Jeſuit, born at Placentia in 1617, entered early among the Jeſuits; and, after having taught mathematics and divinity at Rome, was ſent into Sweden to queen Chriſtina, whom he prevailed on to embrace the popiſh religion. He wrote, 1. *Vacuum proſcriptum.* 2. *Terra machinis mota.* 3. *Mechanicorum, libri octo.* 4. *De Igne Diſſertationes*; which is much eſteemed. 5. *De Angelis Diſputatio Theolog.* 6. *Hydroſtaticæ Diſſertationes.* 7. *Optica Diſputationes*: It is remarkable that he wrute this treatiſe on optics at 88 years of age, and after he was blind. He alſo wrote ſeveral books in Italian.

CASAUBON (Iſaac), was born at Geneva in 1559; and Henry IV. appointed him his library-keeper in 1603. After this prince's death, he went into England with Sir Henry Wotton, ambaſſador frum King James I. where he was kindly received and engaged in writing againſt Baronius's annals: he died not long after this, in 1614; and was interred in Weſtminſter-abbey, where a monument was erected to him. He was greatly ſkilled in the Greek, and in criticiſm; publiſhed ſeveral valuable commentaries; and received the higheſt elogiums from all his cotemporaries. Caſaubon ‖ Caſe.

CASAUBON (Meric), ſon of the preceding, was born at Geneva in 1599. He was bred at Oxford, and took the degree of maſter of arts in 1621. The ſame year he publiſhed a book in defence of his father againſt the calumnies of certain Roman Catholics; which gained him the favour of King James I. and a conſiderable reputation abroad. He was made prebendary of Canterbury by archbiſhop Laud. In the beginning of the civil war he loſt all his ſpiritual promotions, but ſtill continued to publiſh excellent works. Oliver Cromwell, then lieutenant-general of the parliament's forces, would have employed his pen in writing the hiſtury of the late war; but he declined it, owning, that his ſubject would oblige him to make ſuch reflections as would be ungrateful, if not injurious, to his lordſhip. Notwithſtanding this anſwer, Cromwell, ſenſible of his worth, ordered three or four hundred pounds to be paid him by a bookſeller in London whoſe name was Cromwell, on demand, without requiring from him any acknowledgment of his benefactor. But this offer he rejected, though his circumſtances were then mean. At the ſame time it was propoſed by his friend Mr Greaves, who belonged to the library at St James's, that, if Caſaubon would gratify Cromwell in the requeſt above mentioned, all his father's books which were then in the royal library, having been purchaſed by King James, ſhould be reſtored to him, and a penſion of 300 *l.* a-year paid to the family as long as the youngeſt ſon of Dr Caſaubon ſhould live; but this alſo was refuſed. He likewiſe refuſed handſume offers from Chriſtina queen of Sweden, being determined to ſpend the remainder of his life in England. At the reſturation he recovered all his preferments, and continued writing till his death in 1671. He was the author of an Engliſh tranſlation of Marcus Aurelius Antoninus's meditations, and of Lucius Florus; editions of ſeveral of the claſſics, with notes; a treatiſe of uſe and cuſtom; a treatiſe of enthuſiaſm: with many other works; and he left a number of MSS. to the univerſity of Oxford.

CASAURINA, in botany: A genus of the monandria order, belonging to the monoecia claſs of plants. The male has the calyx of the amentum; the corolla a bipartite ſmall ſcale. The female has a calyx of the amentum, no corolla: the ſtyle bipartite.

CASCADE, a ſteep fall of water from a higher into a lower place. The word is French, furmed of the Italian *caſcata*, which ſignified the ſame; of *caſcare*, *to fall*; and that from the Latin *cadere*.

Caſcades are either natural, as that at Tivoli, &c. or artificial, as thoſe of Verſailles, &c. and either falling with gentle deſcent, as thoſe of Sceaux; or in form of a buffet, as at Trianon; or down ſteps, in form of a perron, as at St Clou; or from baſun to baſun, &c.

CASCAIS, a town of Eſtremadura in Portugal, ſituated at the mouth of the river Tagus, 17 miles eaſt of Liſbon. W. Long. 10. 15. N. Lat. 38. 40.

CASCARILLA. See CLUTIA and CROTON.

CASE, among grammarians, implies the differeot inflections

Caſe ‖ Caſhel.

inflections or terminatioos of nouns, ſerviog to expreſs the different relations they bear to eaeh other, and to the things they repreſent. See GRAMMAR.

CASE alſo denotes a receptacle for various artieles; as a eaſe of knives, of lancets, of piſtols, &c.

CASE, in printing, a large flat oblong frame plaeed aſlope, divided into ſeveral compartments or little ſquare eells; in each of which are lodged a number of types or letters of the ſame kind, whence the compoſitor takes them out, each as he needs it, to compoſe his matter. See PRINTING.

CASE is alſo uſed for a certain numerous quantity of divers things. Thus a caſe of erown-glaſs eootains uſually 24 tables, each table being nearly eircular, and about three feet ſix inches diameter; of Newcaſtle glaſs, 35 tables; of Normandy glaſs, 25.

Case-Hardening of Iron, is a ſuperfieial eonverſion of that metal into ſteel, by the ordinary metbod of converſion, namely by cementation with vegetable or animal eoals. This operation is generally praetiſed upon ſmall pieces of iron wrought ioto tools and inſtruments to which a ſuperfieial converſion is ſufficient; and it may be performed eonveniently by putting the pieces of iron to be eaſe-hardened, together with the cement, into an iron box, which is to be cloſely ſhut and expoſed to a red heat during ſome hours. By this eementation a certain thickneſs from the ſurface of the iron will be converted into ſteel, and a proper hardneſs may be afterwards given by ſudden extinction of the heated pieces of converted iron io a cold fluid. See STEEL.

Case-Shot, in the military art, muſket-balls, ſtones, old iron, &c. put into caſes, and ſhot out of great guns.

CASEMENT, or CASEMATE, in architecture, a hollow mouldiog, whieh ſome architects make one-ſixth of a eircle, and others one-fourth.

CASEMENT is alſo uſed in building, for a little moveable window, uſually within a larger, being made to open or turn on hinges.

CASERN, in fortification, lodgings built in garriſon-towns, generally near the rampart, or in the waſte places of the town, for lodging ſoldiers of the garriſon. There are uſually two beds in each eaſern for ſix ſoldiers to lie, who mount the guard alternately; the third part being always on duty.

CASERTA, an epiſcopal town of Italy io the kingdom of Naples, and in the Terra di-Lavoro, with the title of a duchy, ſeated at the foot of a mountain of the ſame name, in E. Long. 15. 5. N. Lat. 41. 5.

CASES (Peter-James), of Paris, the moſt eminent painter of the Freneh ſchool; the churches of Paris and of Verſailles abound with his works. He died in 1754, aged 79.

CASH, in a commercial ſtyle, ſignifies the ſtock or ready money which a merchant or other perſon bas in his preſent diſpoſal to negociate; ſo ealled from the French term *caiſſe*, i. e. *cheſt* or *coffer* for the keeping of money.

M. Savary ſhows, that the management of the eaſh of a company is the moſt conſiderable artiele, and that wherean its good or ill ſucceſs chiefly depends.

Cash-Book. See BOOK-KEEPING.

CASHEL, or CASHIL, a town of Ireland in the county of Tipperary, and province of Munſter, with an archbiſhop's ſee. The ruins of the old cathedral teſtify its having been an extenſive as well as handſome Gothic ſtructure, boldly towering on the celebrated rock of Caſhel, which taken together form a magnificent object, and bear honourable teſtimony to the labour and iogenuity, as well as the piety and zeal, of its former inhabitants. It is ſeen at a great diſtanee, and in many directions. Adjoining it are the ruins of the chapel of Cormac M'Culinan, at onee king and archbiſhop of Caſhel, ſuppoſed to be the firſt ſtone building in Ireland; and ſeems, hy its rude imitation of pillars and capitals, to have been copied after the Grecian architecture, and long to have preceded that which is uſually called *Gothic*. Cormac M'Culinan was a prince greatly celebrated by the Iriſh hiſtorians for his learning, piety, and valour. He wrote, in his native language, a hiſtory of Ireland, eommonly called the *Pſalter of Caſhel*, which is ſtill extant, and contains the moſt authentie account we have of the annals of the country to that period, about the year 900. On the top of the rock of Caſhel, and adjoining the cathedral, is a loſty round tower, which proudly defied the too ſucceſsful attempts of archbiſhop Price, who in this century unrooſed and thereby demoliſhed the ancient cathedral founded by St Patrick. In the choir are the monuments of Myler Magrath, arebbiſhop of this ſee, in the reign of queen Eliſabeth, aod ſome other eurious remains of antiquity. Caſhel was formerly the royal ſeat and metropolis of the kings of Munſter; and on the aſcent to the cathedral is a large ſtone on which every new king of Munſter was, as the inhabitants report from tradition, ſolemnly proclaimed. Caſhel is at preſent but ſmall to what we may ſuppoſe it to have been in ancient days. The archbiſhop's palace is a fine building. Here is a very handſome market houſe, a ſeſſions houſe, the eounty infirmary, a charter ſehool for twenty boys and the ſame number of girls, and a very good barrack for two companies of foot. The preſent archbiſhop Dr Agar hath finiſhed a very elegant ehureh begun by his predeceſſor. W. Long. 7. 36. N. Lat. 52. 16.

Caſhel ‖ Caſhmire.

CASHEW-NUT. See ANACARDIUM.

CASHIER, the caſh-keeper; he who is charged with the receiving and paying the debts of a ſociety.—In the generality of foundations, the eaſhier is called *treaſurer*.

Cashiers of the Bank, are offieers who ſign the notes that are iſſued out, eaamine and mark them when returned for payment, *&c.*

CASHMIRE, a province of Aſia io the dominions of the Mogul. It is ſituated at the extremity of Hindoſtan, northward of Lahore, and is bounded on the one ſide by a ridge of the great Caucaſus, and oo the other by the Little Tartarian Thibet and Moultan. The extent of it is not very conſiderable; but being girt in by a zone of hills, and elevated very conſiderably above an arid plain, which ſtreteches many miles around it, the ſcenes which it exhibits are wild and pictureſque. Rivers, hills, and valleys, charmingly diverſify the landſcape. Here, Mr Sullivan† informs us, a caſcade ruſhes from a foaming precipice; there a tranquil ſtream glides placidly along; the tinkling rill, too, founds amidſt the groves; and the feathered choriſters ſing the ſong of love, cloſe ſheltered io the glade.

† *Philoſophical Rhapſodies.*

At

Caſhmire
Caſing.

At what time Caſhmire came under the dominion of the Mogul government, and how long, and in what manner it was independent, before it was annexed to the territories of the houſe of Timur, are points that are beyond our preſent purpoſe. Though inconſiderable as to its revenues, it was uniformly held in the higheſt eſtimation by the emperors of Hindoſtan. Thither they repaired, in the plenitude of their greatneſs, when the affairs of ſtate would admit of their abſence; and there they diveſted themſelves of form and all the oppreſſive ceremony of ſtate. The royal manner of travelling to Caſhmire was grand, though tedious and unwieldy, and ſhowed, in an eminent degree, the ſplendour and magnificence of an eaſtern potentate. Aurungzebe, we are told, ſeldom began his march to that country, for a march certainly it was to be called, without an eſcort of 80,000 or 100,000 fighting men, beſides the gentlemen of his houſehold, the attendants of his ſeraglio, and moſt of his officers of ſtate. Theſe all continued with him during the time he was on the road, which generally was a month: but no ſooner was he arrived at the entrance of thoſe aërial regions, than, with a ſelect party of friends, he ſeparated from the reſt of his retinue, and with them aſcended the defiles which led him to his Eden.

The temperature of the air of Caſhmire, elevated as it is ſo much above the adjoining country, together with the ſtreams which continually pour from its mountains, enables the huſbandman to cultivate with ſucceſs the ſoil he appropriates to agriculture; whilſt the gardener's labour is amply repaid in the abundant produce of his fruit. In ſhort, nature wears her gayeſt cloathing in this enchanting ſpot. The rivers ſupply the inhabitants with almoſt every ſpecies of fiſh; the hills yield ſweet herbage for the cattle; the plains are covered with grain of different denominations; and the woods are ſtured with variety of game. The Caſhmireans, according to our author, ſeem a race diſtinct from all others in the Eaſt: their perſons are more elegant, and their complexions more delicate and more tinged with red.

On the decadence of the Mogul power in Hindoſtan, Caſhmire felt ſome of the ravages of war. It is now however in peace; and the inhabitants are deſirous of keeping it ſo. They are ſprightly and ingenious; and have ſeveral curious manufactures much valued in India. They are all Mahometans or Idolaters. Caſhmire is the capital town.

CASIMIR, the name of ſeveral kings of Poland. See *(Hiſtory of)* Poland.

Casimir (Matthias Sorbiewſki), a Poliſh Jeſuit, born in 1597. He was a moſt excellent poet; and is, ſays M. Baillet, an exception to the general rule of Ariſtotle and the other ancients, which teaches us to expect nothing ingenious and delicate from northern climates. His odes, epodes, and epigrams, have been thought not inferior to thoſe of the fineſt wits of Greece and Rome. Dr Watts has tranſlated one or two of his ſmall pieces, which are added to his Lyric Poems. He died at Warſaw in 1640, aged 43. There have been many editions of his poems, the beſt of which is that of Paris, 1759.

CASING *of* Timber-work, among builders, is the plaſtering the houſe all over the outſide with mortar, and then ſtriking it while wet by a ruler, with the corner of a trowel, to make it reſemble the joints of free-ſtone. Some direct it to be done upon heart-laths, becauſe the mortar would, in a little time, decay the ſap-laths; and to lay on the mortar in two thickneſſes, viz. a ſecond before the firſt is dry.

Caſk
Caſſon.

CASK, a piece of defenſive armour wherewith to cover the head and neck; otherwiſe called the *head-piece* and *helmet*[*]. The word is French, *caſque*, from *caſſicum* or *caſſicus*, a diminutive of *caſſis* a helmet. Le Gendre obſerves, that anciently, in France, the gens d'arms all wore *caſks*. The king wore a *caſk* gilt; the dukes and counts ſilvered; gentlemen of extraction poliſhed ſteel; and the reſt plain iron.

[*] See Helmet.

The caſk is frequently ſeen on ancient medals, where we may obſerve great varieties in the form and faſhion thereof; as the Greek faſhion, the Roman faſhion, &c. F. Joubert makes it the moſt ancient of all the coverings of the head, as well as the moſt univerſal. Kings, emperors, and even gods themſelves, are ſeen therewith. That which covers the head of Rome has uſually two wings like thoſe of Mercury: and that of ſome kings is furniſhed with horns like thoſe of Jupiter Ammon; and ſometimes barely bulls or rams horns, to expreſs uncommon force.

Casa, in heraldry, the ſame with helmet. See Heraldry, n° 45.

Cask, a veſſel of capacity, for preſerving liquors of divers kinds; and ſometimes alſo dry goods, as ſugar, almonds, &c.—A caſk of ſugar is a barrel of that commodity, containing from eight to eleven hundred weight. A caſk of almonds is about three hundred weight.

CASKET, in a general ſenſe, a little coffer or cabinet. See Cabinet.

Cassets, in the ſea language, are ſmall ropes made of ſinnet, and faſtened to gromets, or little rings upon the yards; their uſe is to make faſt the ſail to the yard when it is to be furled.

CASLON (William), eminent in an art of the greateſt conſequence to literature, the art of letter-founding, was born in 1692, in that part of the town of Hales Owen which is ſituated in Shropſhire. Tho' he juſtly attained the character of being the Coryphæus in that employment, he was not brought up to the buſineſs; and it is obſerved by Mr Mores, that this handy-work is ſo concealed among the artificers of it, that he could not diſcover that any one had taught it to another, but every perſon who had uſed it had learned it of his own genuine inclination. Mr Caſlon ſerved a regular apprenticeſhip to an engraver of ornaments on gun-barrels; and after the expiration of his term, carried on this trade in Vine-ſtreet, near the Minories. He did not, however, ſolely confine his ingenuity to that inſtrument; but employed himſelf likewiſe in making tools for the book-binders, and for the chaſing of ſilver plate. Whilſt he was engaged in this buſineſs, the elder Mr Bowyer accidentally ſaw, in a bookſeller's ſhop, the lettering of a book uncommonly neat; and inquiring who the artiſt was by whom the letters were made, was hence induced to ſeek an acquaintance with Mr Caſlon. Not long after, Mr Bowyer took Mr Caſlon to Mr James's foundery, in Barthulomew-cloſe. Caſlon had never before that time ſeen any part of the buſineſs; and being aſked by his friend, if he thought he could undertake to cut types, he

Biog. Brit. and *Anecdotes* of Bowyer, by Nichols.

Caſlon, Caſpian.

he requeſted a ſingle day to conſider the matter, and then replied that he had no doubt but he could. Upon this anſwer, Mr Bowyer, Mr Bettenham, and Mr Watts had ſuch a confidence in his abilities, that they lent him 500l. to begin the undertaking, and he applied himſelf to it with equal aſſiduity and ſucceſs. In 1720, the ſociety for promoting Chriſtian knowledge, in conſequence of a repreſentation from Mr Solomon Negri, a native of Damaſcus in Syria, who was well ſkilled in the Oriental tongues, and had been profeſſor of Arabic in places of note, deemed it expedient to print, for the uſe of the Eaſtern churches, the New Teſtament and Pſalter in the Arabic language. Theſe were intended for the benefit of the poor Chriſtians in Paleſtine, Syria, Meſopotamia, Arabia, and Egypt, the conſtitution of which countries did not permit the exerciſe of the art of printing. Upon this occaſion Mr Caſlon was pitched upon to cut the fount; in his ſpecimens of which he diſtinguiſhed it by the name of Engliſh Arabic. Under the farther encouragement of Mr Bowyer, Mr Bettenham, and Mr Watts, he proceeded with vigour in his employment; and he arrived at length to ſuch perfection, that he not only freed us from the neceſſity of importing types from Holland, but in the beauty and elegance of thoſe made by him he ſo far exceeded the productions of the beſt artificers, that his workmanſhip was frequently exported to the Continent. In ſhort, his foundery became, in proceſs of time, the moſt capital one that exiſts in this or in foreign countries. Having acquired opulence in the courſe of his employment, he was put into the commiſſion of the peace for the county of Middleſex. Towards the latter end of his life, his eldeſt ſon being in partnerſhip with him, he retired in a great meaſure from the active execution of buſineſs. His death happened in January 1766.

CASPIAN ſea, a large lake of ſalt-water in Aſia, bounded by the province of Aſtrakan on the north, and by part of Perſia on the ſouth, eaſt, and weſt. It is upwards of 400 miles long from ſouth to north, and 300 broad from eaſt to weſt. This ſea forms ſeveral gulfs, and embraces between Aſtrakan and Aſtrabad an incredible number of ſmall iſlands. Its bottom is mud, but ſometimes mixed with ſhells. At the diſtance of ſome German miles from land it is 500 fathoms deep; but on approaching the ſhore it is every where ſo ſhallow, that the ſmalleſt veſſels, if loaded, are obliged to remain at a diſtance.

When we conſider that the Caſpian is incloſed on all ſides by land, and that its banks are in the neighbourhood of very high mountains, we eaſily ſee why the navigation in it ſhould be perfectly different from that in every other ſea. There are certain winds that domineer over it with ſuch abſolute ſway, that veſſels are often deprived of every reſource; and in the whole extent of it there is not a port that can truly be called ſafe. The north, north-eaſt, and eaſt winds, blow moſt frequently, and occaſion the moſt violent tempeſts. Along the eaſtern ſhore the eaſt winds prevail; for which reaſon veſſels bound from Perſia to Aſtrakan always direct their courſe along this ſhore.

Although the extent of the Caſpian Sea is immenſe, the variety of its productions is exceedingly ſmall. This undoubtedly proceeds from its want of communication with the ocean, which cannot impart to it any portion of its inexhauſtible ſtores. But the animals which this lake nouriſhes multiply to ſuch a degree, that the Ruſſians, who alone are in condition to make them turn to account, juſtly conſider them as a never failing ſource of profit and wealth. It will be underſtood that we ſpeak of the fiſh of the Caſpian and of its fiſheries, which make the ſole occupation and principal trade of the people inhabiting the banks of the Wolga and of the Jaik. This buſineſs is diſtinguiſhed into the great and leſſer fiſheries. The fiſh comprehended under the firſt diviſion, ſuch as the ſturgeon and others, abound in all parts of the Caſpian as well as in the rivers that communicate with it, and which they aſcend at ſpawning-time. The ſmall fiſhes, ſuch as the ſalmon and many others, obſerve the general law of quitting the ſalt waters for the freſh, nor is there an inſtance of one of them remaining conſtantly in the ſea. Caſpian.

Seals are the only quadrupeds that inhabit the Caſpian; but they are there in ſuch numbers as to afford the means of ſubſiſtence to many people in that country as well as in Greenland. The varieties of the ſpecies are numerous, diverſified, however, only by the colour. Some are quite black, others quite white; there are ſome whitiſh, ſome yelloviſh, ſome of a mouſe-colour, and ſome ſtreaked like a tiger. They crawl by means of their fore-feet upon the iſlands, where they become the prey of the fiſhermen, who kill them with long clubs. As ſoon as one is diſpatched, he is ſucceeded by ſeveral who come to the aſſiſtance of their unhappy companion, but come only to ſhare his fate. They are exceedingly tenacious of life, and endure more than thirty hard blows before they die. They will even live for ſeveral days after having received many mortal wounds. They are moſt terrified by fire and ſmoke; and as ſoon as they perceive them, retreat with the utmoſt expedition to the ſea. Theſe animals grow ſo very fat, that they look rather like oil-bags than animals. At Aſtrakan is made a ſort of grey ſoap with their fat mixed with pot-aſhes, which is much valued for its property of cleanſing and taking greaſe from woollen ſtuffs. The greateſt numbers of them are killed in ſpring and autumn. Many ſmall veſſels go from Aſtrakan merely to catch ſeals.

If the Caſpian has few quadrupeds, it has in proportion ſtill fewer of thoſe natural productions which are looked upon as proper only to the ſea. There have never been found in it any zoophytes, nor any animal of the order of moluſca. The ſame may almoſt be ſaid of ſhells; the only ones found being three or four ſpecies of cockle, the common muſcle, ſome ſpecies of ſnails, and one or two others.

But to compenſate this ſterility, it abounds in birds of different kinds. Of thoſe that frequent the ſhores there are many ſpecies of the gooſe and duck kind, of the ſtork and heron, and many others of the wader tribe. Of birds properly aquatic, it contains the grebe, the creſted diver, the pelican, the cormorant, and almoſt every ſpecies of gull. Crows are ſo fond of fiſh, that they haunt the ſhores of the Caſpian in prodigious multitudes.

The waters of this lake are very impure, the great number of rivers that run into it, and the nature of its bottom, affecting it greatly. It is true, that in general the waters are ſalt; but though the whole weſtern ſhore extends

Caſpian. extends from the 46th to the 35th degree of north latitude, and though one might conclude from analogy that theſe waters would contain a great deal of ſalt, yet experiments prove the contrary: and it is certain that the ſaltneſs of this ſea is diminiſhed by the north, north-eaſt, and north-weſt winds; although we may with equal reaſon conclude, that it owes its ſaltneſs to the mines of ſalt which lie along its two banks, and which are either already known or will be known to poſterity. The depth of theſe waters alſo diminiſhes gradually as you approach the ſhores, and their ſaltneſs in the ſame way grows leſs in proportion to their proximity to the land, the north winds not unfrequently cauſing the rivers to diſcharge into it vaſt quantities of troubled water impregnated with clay. Theſe variations which the ſea is expoſed to are more or leſs conſiderable according to the nature of the winds; they affect the colour of the river waters to a certain diſtance from the ſhore, till theſe mixing with thoſe of the ſea, which then reſume the aſcendency, the fine green colour appears, which is natural to the ocean, and to all thoſe bodies of water that communicate with it.

It is well known, that beſides its ſalt taſte, all ſea-water has a ſenſible bitterneſs, which muſt be attributed not only to the ſalt itſelf, but to the miature of different ſubſtances that unite with it, particularly to different ſorts of alum, the ordinary effect of different combinations of acids. Beſides this, the waters of the Caſpian have another taſte, bitter too, but quite diſtinct, which affects the tongue with an impreſſion ſimilar to that made by the bile of animals; a property which is peculiar to this ſea, though not equally ſenſible at all ſeaſons. When the north and north-weſt winds have raged for a conſiderable time, this bitter taſte is ſenſibly felt; but when the wind has been ſouth, very imperfectly. We ſhall endeavour to account for this phenomenon.

The Caſpian is ſurrounded on its weſtern ſide by the mountains of Caucaſus, which extend from Derbent to the Black Sea. Theſe mountains make a curve near Aſtrakan, and directing their courſe towards the eaſtern ſhore of the Caſpian, loſe themſelves near the mouth of the Jaik, where they become ſecondary mountains, being diſpoſed in ſtrata. As Caucaſus is an inexhauſtible magazine of combuſtible ſubſtances, it conſequently lodges an aſtoniſhing quantity of metals in its bowels. Accordingly, along the foot of this immenſe chain of mountains, we ſometimes meet with warm ſprings, ſometimes ſprings of naphtha of different quality; ſometimes we find native ſulphur, mines of vitriol, or lakes heated by internal fires. Now the foot of mount Caucaſus forming the immediate weſtern ſhore of the Caſpian Sea, it is very eaſy to imagine that a great quantity of the conſtituent parts of the former muſt be communicated to the latter: but it is chiefly to the naphtha, which abounds ſo much in the countries which ſurround this ſea, that we muſt attribute the true cauſe of the bitterneſs peculiar to its waters; for it is certain that this bitumen flows from the mountains, ſometimes in all its purity, and ſometimes mixed with other ſubſtances which it acquires in its paſſage through ſubterranean channels, from the moſt interior parts of theſe mountains to the ſea, where it falls to the bottom by its ſpecific gravity. It is certain too, that the north and north-weſt winds detach the greateſt quantities of this naphtha; whence it is evident that the bitter taſte muſt be moſt ſenſible when theſe winds prevail. We may alſo comprehend why this taſte is not ſo ſtrong at the ſurface or in the neighbourhood of the ſhore, the waters there being leſs impregnated with ſalt, and the naphtha which is united with the water by the ſalt, being then either carried to a diſtance by the winds or precipitated to the bottom. Caſpian Caſſina.

But it is not a bitter taſte alone that the naphtha communicates to the waters of the Caſpian: theſe waters were analyſed by M. Gmelin, and found to contain, beſides the common ſea-ſalt, a conſiderable proportion of Glauber-ſalt, intimately united with the former, and which is evidently a production of the naphtha.

As the waters of the Caſpian have no outlet, they are diſcharged by ſubterranean canals through the earth, where they depoſit beds of ſalt; the ſurface of which correſponds with that of the level of the ſea. The two great deſarts which extend from it to the eaſt and weſt are chiefly compoſed of a ſaline earth, in which the ſalt is formed by efflorescence into regular cryſtals; for which reaſon ſalt ſhowers and dews are exceedingly common in that neigbourhood. The ſalt of the marſhes at Aſtrakan, and that found in efflorescence in the deſarts, is by no means pure ſea-ſalt, but much debaſed by the bitter Glauber ſalt we mentioned above. In many places indeed it is found with cryſtals of a lozenge ſhape, which is peculiar to it, without any cubical appearance, the form peculiar to cryſtals of ſea-ſalt.

A great deal has been written on the ſucceſſive augmentation and decreaſe of the Caſpian ſea, but with little truth. There is indeed to be perceived in it a certain riſe and fall of its waters; in which, however, no obſervation has ever diſcovered any regularity.

Many ſuppoſe (and there are ſtrong preſumptions in favour of the ſuppoſition), that the ſhores of the Caſpian were much more extenſive in ancient times than they are at preſent, and that it once communicated with the Black Sea. It is probable too, that the level of this laſt ſea was once much higher than it is at preſent. If then it be allowed, that the waters of the Black Sea, before it procured an exit by the Straits of Conſtantinople, roſe ſeveral fathoms above their preſent level, which from many concurring circumſtances may eaſily be admitted; it will follow, that all the plains, of the Crimea, of the Kuman, of the Wolga, and of the Jaik, and thoſe of Great Tartary beyond the lake of Arat, in ancient times formed but one ſea, which embraced the northern extremity of Caucaſus by a narrow ſtrait of little depth; the veſtiges of which are ſtill obvious in the river Mantyſch.

CASSADA. See JATROPHA.

CASSANA (Nicolo), called NICOLETTO, an eminent Italian painter, was born at Venice in 1659, and became a diſciple of his father Giovanni Franceſco Caſſino, a Genoeſe, who had been taught the art of painting by Bernardino Strozzi. He ſoon diſtinguiſhed himſelf not only by the beauty of his colouring, but by the graceſulneſs of his figures in hiſtorical compoſitions, as well as in portrait. The moſt eminent perſonages ſolicited him to enrich their cabinets with ſome of his performances; and were more particularly

Caſſana. deſirous to obtain their portraits, becauſe in that branch he excelled beyond competition. The Grand Duke of Tuſcany, who was an excellent judge of merit in all profeſſions, and as liberal an encourager of it, invited Nicoletto to his court; and he there painted the portraits of that prince and the princeſs Violante his conſort. Thoſe performances procured him uncommon applauſe, as well as a noble gratuity, and he was employed and careſſed by the principal nobility of Florence. Beſide ſeveral hiſtorical ſubjects painted by this maſter while he reſided in that city, one was a very capital deſign: The ſubject of it was the *Conſpiracy of Catiline*; it conſiſted of nine figures as large as life, down to the knees; and the two principal figures were repreſented as with one hand joined in the preſence of their companions, and in their other hand holding a cup of blood. Some of the Engliſh nobility on their travels ſat to him for their portraits; which being ſent to London, and highly admired, Nicoletto was invited to England, with ſtrong aſſurances of a generous reception; and on his arrival he experienced the kindneſs, the reſpect, and the liberality, ſo peculiar to the natives of that kingdom. He had the honour of being introduced to the preſence of queen Anne, and to paint her portrait; in which he ſucceeded ſo happily, that the queen diſtinguiſhed him by many marks of favour and honour; but he had not the happineſs to enjoy his good fortune for any length of time, dying in London, univerſally regretted, in the year 1713.

Cassana (Giovanni Agoſtino), called *L'Abate Caſſana*, was brother to the preceding, and born in 1664. He was educated along with him by their father Franceſco Caſſana; and he finiſhed his ſtudies at Venice, where his brother Nicolo reſided for ſome time. Although he compoſed and deſigned hiſtorical ſubjects with expertneſs, and with a correctneſs of outline equal to his brother; yet from prudence and fraternal affection, he declined to interfere with him, and choſe therefore to deſign and paint all ſorts of animals and fruits. In that ſtyle he arrived at a high degree of excellence, imitating nature with exactneſs, beauty, and truth; expreſſing the various plumage of his birds, and the hairs of the different animals with ſuch tenderneſs and delicacy as rendered them eſtimable to all judges and lovers of the art. His works were admitted into the collections of thoſe of the firſt rank, and accounted ornaments of thoſe repoſitories of what is curious or valuable. He alſo painted fruits of thoſe kinds which were the moſt uncommon, or naturally of odd and ſingular colours; and ſuch fiſhes as ſeemed worthy to excite admiration by their unuſual form, colour, or appearance. But beſides thoſe ſubjects, he ſometimes painted the portraits of particular perſons of diſtinction, which he deſigned, coloured, and touched, with the ſame degree of merit that was viſible in all his other performances. At laſt he determined to viſit Genoa, where his family had lived in eſteem; and took with him ſeveral pictures which he had already finiſhed. His intention was to diſplay his generoſity, and to appear as a perſon of more wealth and of greater conſequence than he really was; and to ſupport that character, he beſtowed his pictures to ſeveral of the principal nobility of that city. But, unhappily, he experienced no grateful return for all that prodigal munificence: he reduced himſelf by that vain liberality to the moſt neceſſitous circumſtances; was deprived of the means to procure for himſelf even the common neceſſaries of life; and waſted away the remainder of his days in the bitterneſs of poverty, miſery, and neglect. Caſſander Caſſel.

CASSANDER, king of Macedon after Alexander the Great, was the ſon of Antipater. He made ſeveral conqueſts in Greece, aboliſhed democracy at Athens, and gave the government of that ſtate to the orator Demetrius. Olympias, the mother of Alexander, having cauſed Aridæus and his wife Euridyce, with others of Caſſander's party, to be put to death; he beſieged Pydne, whither the queen had retired, took it by a ſtratagem, and cauſed her to be put to death. He married Theſſalonica the ſiſter of Alexander the Great; and killed Roxana and Alexander, the wife and ſon of that conqueror. At length he entered into an alliance with Seleucus and Lyſimachus, againſt Antigonus and Demetrius; over whom he obtained a great victory near Ipſus in Phrygia, 301 years before the Chriſtian æra, and died three years after, in the 19th year of his reign.

CASSANDRA, in fabulous hiſtory, the daughter of Priam and Hecuba, was beloved of Apollo, who promiſed to beſtow on her the ſpirit of prophecy, provided ſhe would conſent to his love. Caſſandra ſeemed to accept the propoſal; but had no ſooner obtained that gift, than ſhe laughed at the tempter, and broke her word. Apollo, being enraged, revenged himſelf by cauſing no credit be given to her predictions; hence ſhe in vain propheſied the ruin of Troy. Ajax, the ſon of Oileus, having raviſhed her in the temple of Minerva, he was ſtruck with thunder. She fell into the hands of Agamemnon, who loved her to diſtraction; but in vain did ſhe predict that he would be aſſaſſinated in his own country. He was killed, with her, by the intrigues of Clytemneſtra; but their death was avenged by Oreſtes.

CASSANO, a town of Italy in the duchy of Milan, rendered remarkable by an obſtinate battle fought there between the Germans and French in 1705. It is ſubject to the Houſe of Auſtria, and is ſeated on the river Adda, in E. Long. 10. 0. N. Lat. 45. 20.

CASSANO, a town of Italy in Calabria citerior, in the kingdom of Naples, with a biſhop's ſee. E. Long. 16. 30. N. Lat. 39. 55.

CASSAVI, or Cassada. See Jatropha.

CASSEL, a town of French Flanders, and capital of a chaſtellany of the ſame name: It is ſeated on a mountain, where the terrace of the caſtle is ſtill to be ſeen; and from whence there is one of the fineſt proſpects in the world; for one may ſee no leſs than 32 towns, with a great extent of the ſea, from whence it is diſtant 15 miles. E. Long. 2. 27. N. Lat. 50. 48.

Cassel, the capital city of the landgravate of Heſſe-caſſel, in the circle of the Upper Rhine in Germany; (ſee Hesse-cassel). It is divided into the Old, New, and High towns. The New Town is beſt built, the houſes being of ſtone, and the ſtreets broad. The houſes of the Old Town, which is within the walls, are moſtly of timber; but the ſtreets are broad, and the market-places ſpacious. The place is ſtrongly fortified, but the fortifications are not regular. It contains about 32,000 inhabitants, of whom a great proportion are French Proteſtants. Theſe have eſtabliſh-

ed

Caſſia. ed ſeveral manufactories in the place, particularly in the woollen branch. It is ſeated on the declivity of a hill near the river Fulva, in E. Long. 9. 20. N. Lat. 51. 20.

CASSIA, in botany: A genus of the monogynia order, belonging to the decandria claſs of plants; and in the natural method ranking under the 33d order, *Lomentaceæ*. The calyx is pentaphyllous; petals five; antheræ upper, three barren; lower, three-beaked: a leguminous plant. There are 30 ſpecies, all of them natives of warm climates. The moſt remarkable are,

1. The fiſtula or purging caſſia of Alexandria. It is a native of Egypt and both Indies, where it riſes to the height of 40 or 50 feet, with a large trunk, dividing into many branches, garniſhed with winged leaves, compoſed of five pair of ſpear-ſhaped lobes, which are ſmooth, having many tranſverſe nerves from the midrib to the border. The flowers are produced in long ſpikes at the end of the branches, each ſtanding upon a pretty long foot-ſtalk; theſe are compoſed, like the former, of fine yellow concave petals, which are ſucceeded by cylindrical pods from one to two feet long, with a dark brown woody ſhell, having a longitudinal ſeam on one ſide, divided into many cells by tranſverſe partitions, each containing one or two oval, ſmooth, compreſſed ſeeds, lodged in a blackiſh pulp, which is uſed in medicine. There are two ſorts of this drug in the ſhops; one brought from the Eaſt Indies, the other from the Weſt: the canes or pods of the latter are generally large, rough, thick-rinded, and the pulp nauſeous; thoſe of the former are leſs, ſmoother, the pulp blacker, and of a ſweeter taſte; this ſort is preferred to the other. Such pods ſhould be choſen as are weighty, new, and do not make a rattling noiſe (from the ſeeds being looſe within them) when ſhaken. The pulp ſhould be of a bright ſhining black colour, and a ſweet taſte, not harſh, which happens from the fruit being gathered before it has grown fully ripe, or ſouriſh, which it is apt to turn upon keeping: it ſhould neither be very dry nor very moiſt, nor at all mouldy; which, from its being kept in damp cellars or moiſtened, in order to increaſe its weight, it is very ſubject to be. Greateſt part of the pulp diſſolves both in water and in rectified ſpirit; and may be extracted from the cane by either. The ſhops employ water, boiling the bruiſed pod therein, and afterwards evaporating the ſolution to a due conſiſtence. This pulp is a gentle laxative medicine, and frequently given, in a doſe of ſome drams, to coſtive habits. Some direct a doſe of two ounces or more as a cathartic, in inflammatory caſes, where the more acrid purgatives have no place; but in theſe large quantities it generally naſeates the ſtomach, produces flatulencies, and ſometimes gripings of the bowels, eſpecially if the caſſia be not of a very good kind: theſe effects may be prevented by the addition of aromatics, and exhibiting it in a liquid form. Geoffroy ſays, it does excellent ſervice in the painful tenſion of the belly, which ſometimes follows the imprudent uſe of antimonials; and that it may be advantageouſly acuated with the more acrid purgatives, or antimonial emetics, or employed to abate their force. Valliſnieri relates, that the purgative virtue of this medicine is remarkably promoted by manna; that a mixture of four drams of caſſia and two of manna, purges as much as twelve drams of caſſia or thirty-two of manna alone. Senoertus obſerves, that the urine is apt to be tinged of a green colour by the uſe of caſſia: and ſometimes, where a large quantity has been taken, blackiſh. This drug gives name to an officinal electuary, and is an ingredient alſo in another. Caſſia, Caſſida.

2. The caſſia ſenna is a ſhrubby plant cultivated in Perſia, Syria, and Arabia, for the leaves, which form a conſiderable article of commerce. They are of an oblong figure, ſharp-pointed at the ends, about a quarter of an inch broad, and not a full inch in length, of a lively yelloviſh green colour, a faint not very diſagreeable ſmell, and a ſubacrid, bitteriſh, naſeous taſte. They are brought from the above places, dried and picked from the ſtalks, to Alexandria in Egypt, and thence imported into Europe. Some inferior ſorts are brought from Tripoli and other places; theſe may eaſily be diſtinguiſhed by their being either narrower, longer, and ſharper pointed; or larger, broader, and round pointed, with ſmall prominent veins; or large and obtuſe, of a freſh green colour, without any yellow caſt. Senna is a very uſeful cathartic, operating mildly, and yet effectually; and, if judiciouſly doſed and managed, rarely occaſioning the ill conſequences which too frequently follow the exhibition of the ſtronger purges. The only inconveniences complained of in this drug are, its being apt to gripe, and its naſeous flavour. The griping quality depends upon a reſinous ſubſtance, which, like the other bodies of this claſs, is naturally diſpoſed to adhere to the coats of the inteſtines. The more this reſin is divided by ſuch matters as take off its tenacity, the leſs adheſive, and conſequently the leſs irritating and griping it will prove; and the leſs it is divided, the more griping: hence ſenna given by itſelf, or infuſions made in a very ſmall quantity of fluid, gripe ſeverely, and purge leſs than when diluted by a large portion of ſuitable menſtruum, or divided by mixing the infuſion with oily emulſions. The ill flavour of this drug is ſaid to be abated by the greater water-figwort: but we cannot conceive that this plant, whoſe ſmell is manifeſtly fetid and its taſte naſeous and bitter, can at all improve thoſe of ſenna: others recommend bohea tea, though neither has this any conſiderable effect. The ſmell of ſenna reſides in its more volatile parts, and may be diſcharged by lightly boiling infuſions of it made in water: the liquor thus freed from the peculiar flavour of the ſenna, may be eaſily rendered grateful to the taſte, by the addition of any proper aromatic tincture or diſtilled water. The colleges both of London and Edinburgh have given ſeveral formulæ for the exhibition of this article, ſuch as thoſe of infuſion, powder, tincture, and electuary. The doſe of ſenna in ſubſtance, is from a ſcruple to a dram: in infuſion, from one to three or four drams. It has been cuſtomary to reject the pedicles of the leaves of ſenna as of little or no uſe: Geoffroy however obſerves, that they are not much inferior in efficacy to the leaves themſelves. The pods or ſeed-veſſels met with among the ſenna brought to us, are by the college of Bruſſels preferred to the leaves: they are leſs apt to gripe, but proportionably leſs purgative.

Cassia-Lignea. See Laurus.

CASSIDA, in botany. See Scutellaria.

Cassida, in zoology, a genus of inſects belonging

Caſſimer || Caſſine

Plate CXVI.

to thr order of coleoptera. The feelers are like threads, but thieker on the outſide; the elytra are oarginated; and the head is hid under the thorax; from which laſt circumſtance is derived the name of the genus. Foreign countries afford many fine ſpecies of them. Thoſe we meet with in theſe parts have ſomething ſingular. Their larva, by the help of the two prongs which are to be found at its hinder extremity, makes itſelf, with its own excrements, a kind of umbrella, that ſhelters it from the ſun and rain. When this umbrella grows over-dry, it parts with it for a new one. This larva caſts its ſlough ſeveral times. Thiſtles and verticillated plants are inhabited by theſe inſects. There is one ſpecies, of which the remarkable chryſalis reſembles an armorial eſcutcheon. It is that which produces our variegated caſſida, and is a very ſingular one. Numbers of them are found on the ſide of ponds, upon the wild elecampane.

CASSIMER, or Casimer, the name of a thin tweeled woollen cloth, much in faſhion for ſummer uſe.

CASSIMIRE or Cashmire. See Cashmire.

CASSINE, in botany: A genus of the trigynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 23d order, *Dumoſæ*. The calyx is quinquepartite; the petals are five; and the fruit is a triſpermous berry. There are three ſpecies, all of them nativrs of warm climates.

Of theſe the moſt remarkable is the *yapon*, which is a native of the maritime parts of Virginia and Carolina. It riſes to the height of ten or twelve feet, ſending out branches from the ground upward, garniſhed with ſpear-ſhaped leaves placed alternately, which continue green through the year. The flowers are produced in cloſe whorls round the branches, at the foot-ſtalks of the leaves; they are white, and divided into five parts, almoſt to the bottom. The berries are of a beautiful red colour, and as they continue moſt part of the winter upon the plants without being touched by the birds, we may reaſonably conclude that they are poſſeſſed of a poiſonous quality; as few of the wholeſome innocent fruits eſcape their depredatious. The Indians, however, have a great veneration for this plant, and at certain ſeaſons of the year come in great numbers to fetch away the leaves. On ſuch occaſions their uſual cuſtom, ſays Miller, is to make a fire upon the ground, and, putting on it a great kettle full of water, they throw in a large quantity of yapon leaves; and when the water has boiled ſufficiently, they drink large draughts of the decoction out of the kettle; which ſeldom fails to vomit them very feverely. In this manner, however, they continue drinking and vomiting for three daya together, until they imagine themſelves ſufficiently cleanſed; they then gather every one a bundle of the ſhrub, and carry it home with thrm.—In the operation of theſe leaves by vomiting, thoſe who have taſted of them ſay, that there is no uneaſy ſenſation or pain. The matter diſcharged comes away in a full ſtream by the mouth, without any violence, or ſo much as diſpoſing the patient to reach, or decline his head. The Spaniards who live near the gold mines of Peru, are frequently obliged to drink an infuſion of this herb in order to moiſten their breaſts; without which they are liable to a ſort of ſuffocation, from the ſtrong metallic exhalations that are continually proceeding from the mines. In Paraguay, the Jeſuits make a great revenue by importing the leaves of this plant into many countries under the name of Paraguay or South-ſea tea, which is there drank in the ſame manner as that of China or Japan is with us. It is with difficulty preſerved in England.

Caſſia || Caſſiopeia.

CASSINI (Johannes Dominicus), a moſt excellent aſtronomer, born at Piedmont in 1635. His early proficiency in aſtronomy procured him an invitation to be mathematical profeſſor at Bologna when he was no more than 15 years of age: and a comet appearing in 1652, he diſcovered that comets were not accidental meteors, but of the ſame nature, and probably governed by the ſame laws, as the planets. In the ſame yrar he ſolved a problem given up by Kepler and Bulliaidus as inſolvable, which was, to determine geometrically the apogee and eccentricity of a planet from its true and mean place. In 1663, he was appointed inſpector-general of the fortifications of the caſtle of Urbino, and had afterwards the care of all the rivers in the eccleſiaſtical ſtate: he ſtill however proſecuted his aſtronomical ſtudies, by diſcovering the revolution of Mars round his own axis; and, in 1666, publiſhed his theory of Jupiter's ſatellites. Caſſini was invited into France by Louis XIV. in 1669, where he ſettled as the firſt profeſſor in the royal obſervatory. In 1677 he demonſtrated the line of Jupiter's diurnal rotation; and in 1684 diſcovered four more ſatellites belonging to Saturn, Huygens having found one before. He inhabited the royal obſervatory at Paris more than forty years; and when he died in 1712, was ſucceeded by his only ſon James Caſſini.

CASSIODORUS (Marcus Aurelius), ſecretary of ſtate to Theodoric king of the Goths, was born at Squillace, in the kingdom of Naples, about the year 470. He was conſul in 514, and was in great credit under the reigns of Athalaric and Vitiges; but at ſeventy years of age retired into a monaſtery in Calabria, where he amuſed himſelf in making ſun-dials, water hour-glaſſes, and perpetual lamps. He alſo formed a library; and compoſed ſeveral works, the beſt edition of which is that of father Garet, printed at Rouen in 1679. Thoſe moſt eſteemed are his Divine Inſtitutions, and his treatiſe on the Soul. He died about the year 562.

CASSIOPEIA, in fabulous hiſtory, wife to Cepheus king of Ethiopia, and mother of Andromeda. She thought herſelf more beautiful than the Nereides, who deſired Neptune to revenge the affront; ſo that he ſent a ſea-monſter into the country, which did much harm. To appeaſe the god, her daughter Andromeda was expoſed to the monſter, but was reſcued by Perſeus; who obtained of Jupiter, that Caſſiopeia might be placed after his death among the ſtars: hence the conſtellation of that name.

Cassiopeia, in aſtronomy, one of the conſtellations of the northern hemiſphere, ſituated neat to Cepheus. In 1572, there appeared a new ſtar in this conſtellation, which at firſt ſurpaſſed in magnitude and brightneſs Jupiter himſelf; but it diminiſhed by degrees, and at laſt diſappeared, at the end of eighteen months. It alarmed all the aſtronomers of that age, many of whom wrote diſſertations on it; among the reſt Tycho Brahe, Kepler, Maurolycus, Lycetus, Gramineus, &c. Beza, the landgrave of Heſſe, Roſa, &c. wrote to prove it a comet, and the ſame which appeared to the Magi at the

Caſſis
||
Caſſ mar.

the birth of Jeſus Chriſt, and that it came to declare his ſecond coming: they were anſwered on this ſubject by Tycho. The ſtars in the conſtellation Caſſopeia, in Ptolemy's Catalogue, are thirteen; in Hevelius's thirty-ſeven; in Tycho's, forty-ſix; but in the Britannic Catalogue, Mr Flamſtead makes them fifty-five.

CASSIS, in antiquity, a plated or metalline helmet; different from the *galea*, which was of leather.

CASSITERIA, in the hiſtory of foſſils, a genus of cryſtals, the figures of which are influenced by an admixture of ſome particles of tin.

The caſſiteria are of two kinds; the whitiſh pellucid caſſiterion, and the brown caſſiterion. The firſt is a tolerably bright and pellucid cryſtal, and ſeldom ſubject to the common blemiſhes of cryſtal: it is of a perfect and regular form, in the figure of a quadrilateral pyramid; and is found in Devonſhire and Cornwall principally. The brown caſſiterion is like the former in figure: it is of a very ſmooth and gloſſy ſurface, and is alſo found in great plenty in Devonſhire and Cornwall.

CASSITERIDES (anc. geog.), a cluſter of iſlands to the weſt of the Land's End; oppoſite to Celtiberia, (Pliny); famous for their tin, which he calls *candidum fluvium*; formerly open to none but the Phœnicians; who alone carried on this commerce from Gades, concealing the navigation from the reſt of the world, (Strabo). The appellation is from *Caſſiteros*, the name for tin in Greek. Now thought to be the Scilly Iſlands, or Sorlings, (Camden).

CASSIUS (Spurius), a renowned Roman general and conſul, whoſe enemies accuſing him of aſpiring to royalty, he was thrown down from the Tarpeian rock, 485 years before Chriſt; after having thrice enjoyed the conſular dignity, been once general of the horſe under the firſt dictator that was created at Rome, and twice received the honour of a triumph.

Cassius (Longinus), a celebrated Roman lawyer, flouriſhed 113 years before Chriſt. He was ſo inflexible a judge, that his tribunal was called the *Rock of the impeached*. It is from the judicial ſeverity of this Caſſius, that very ſevere judges have been called *Caſſiani*.

Cassius (Caius), one of the murderers of Julius Cæſar: after his defeat by Mark Anthony at the battle of Philippi, he ordered one of his freed-men to put him to death with his own ſword, 41 years before Chriſt. See Rome.

CASSOCK, or Cassula, a kind of robe or gown, wore over the reſt of the habit, particularly by the clergy. The word caſſock comes from the French *caſaque*, an horſeman's coat.

CASSONADE, in commerce, caſk ſugar, or ſugar put into caſks or cheſts, after the firſt purification, but which has not been refined. It is ſold either in powder or in lumps; the whiteſt, and that of which the lumps are largeſt, is the beſt. Many imagine it to ſweeten more than loaf ſugar; but it is certain that it yields a great deal more ſcum.

CASSOWARY, in ornithology. See Struthio.

CASSUMAR, in the Materia Medica, a root approaching to that of zedoary.

It is cardiac and ſudorific, and famous in nervous caſes; it is alſo an ingredient in many compoſitions, and is preſcribed in powders, boluſes, and infuſions. Its doſe is from five to fifteen grains.

CASSUMBAZAR, a town of India, in Aſia, ſituated on the river Ganges, in the province of Bengal. E. Long. 37. and N. Lat. 24. Caſſumbazar || Caſtagno.

CAST is peculiarly uſed to denote a figure or ſmall ſtatue of bronze. See Bronze.

Cast, among founders, is applied to tubes of wax fitted in divers parts of a mould of the ſame matter; by means of which, when the wax of the mould is removed, the melted metal is conveyed into all the parts which the wax before poſſeſſed.

Cast, alſo denotes a cylindrical piece of braſs or copper, ſlit in two, lengthwiſe, uſed by the founders in ſand, to form a canal or conduit in their moulds, whereby the metal may be conveyed to the different pieces intended to be caſt.

Cast, among plumbers, denotes a little braxen funnel at one end of a mould, for caſting pipes without ſoldering, by means of which the melted metal is poured into the mould.

Cast, or *Caſte*, in ſpeaking of the eaſtern affairs, denotes a tribe, or number of families, of the ſame rank and profeſſion. The diviſion of a nation into caſts chiefly obtains in the dominions of the Great Mogul, kingdom of Bengal, iſland of Ceylon, and the great peninſula oppoſite thereto. In each of theſe there are, according to father Martin, four principal caſts, viz. the caſt of the *bramins*, which is the firſt and moſt noble; the caſt of the *rajas*, or princes, who pretend to be deſcended from divers royal families; the caſt of the *choutres*, which comprehends all the artificers; and that of the *parias*, the loweſt and moſt contemptible of all: though Henry Lord, it muſt be obſerved, divides the Indians about Surat into four *caſts*, ſomewhat differently from Martin, viz. into *bramins*, or prieſts; *cuttery*, or ſoldiers; *ſhuddery*, which we call banians, or merchants; and *wyſe*, the mechanics or artificers. Every art and trade is confined to its proper *caſt*, nor is allowed to be exerciſed by any but thoſe whoſe fathers profeſſed the ſame. So that a taylor's ſon can never riſe to be a painter, nor a painter's ſon fall to be a taylor; though there are ſome employments that are proper to all the caſts, *e. g.* every body may be a ſoldier, or a merchant. There are alſo divers caſts which are allowed to till the ground, but not all. The caſt of *parias* is held infamous, in ſo much that it is a diſgrace to have any dealings or converſation with them; and there are ſome trades in the caſt of *choutres*, which debaſe their profeſſors almoſt to the ſame rank. Thus ſhoemakers, and all artificers in leather, as alſo fiſhermen, and even ſhepherds, are reputed no better than *parias*.

CASTAGNO (Andrea Dal), hiſtorical painter, was born at a ſmall village called Caſtagno, belonging to the territory of Tuſcany, in 1409; and being deprived of his parents, was employed by his uncle to attend the herds of cattle in the fields; but, having accidentally ſeen an ordinary painter at work in the country, he obſerved him for ſome time with ſurpriſe and attention, and afterwards made ſuch efforts to imitate him, as aſtoniſhed all who ſaw his productions. The extraordinary genius of Andrea became at laſt a common topic of diſcourſe in Florence; and ſo far excited the curioſity of Bernardetto de Medici, that he ſent for Andrea; and perceiving that he had promiſing talents, he placed him under the care of the

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Caſtagno, Caſtalio.

beſt maſters who were at that time in Florence. Andrea diligently purſued his ſtudies, devoted himſelf entirely to practice under the direction of his inſtructors, became particularly eminent in deſign, and in a few years made ſo great a progreſs, that he found as much employment as he could poſſibly execute. He painted only in diſtemper, and freſco, with a manner of colouring that was not very agreeable, being rather dry and hard; till he learned the ſecret of painting in oil from Domenico Venetiano, who had derived his knowledge of that new diſcovery from Antonello da Meſſina. Andrea was the firſt of the Florentine artiſts who painted in oil; but although he was in the higheſt degree indebted to Domenico for diſcloſing the ſecret, yet he ſecretly envied the merit of the man who taught him the art; and becauſe his own works ſeemed to be much leſs admired than thoſe of Domenico, he determined to aſſaſſinate his friend and benefactor. He executed his deſign with the utmoſt ingratitude and treachery (for Domenico at that time lived with him, and painted in partnerſhip with him), and he ſtabbed him at a corner of a ſtreet ſo ſecretly, that he eſcaped unobſerved, and unſuſpected, to his own houſe, where he compoſedly ſat down to work; and thither Domenico was ſoon after conveyed, to die in the arms of his murderer. The real author of ſo inhuman a tranſaction was never diſcovered, till Andrea, through remorſe of conſcience, diſcloſed it on his death-bed, in 1480. He finiſhed ſeveral conſiderable works at Florence, by which he gained great riches, and as great a reputation; but when his villanous miſconduct became public, his memory was ever after held in the utmoſt deteſtation. The moſt noted work of this maſter is in the hall of juſtice at Florence, repreſenting the execution of the conſpirators againſt the houſe of Medici.

CASTALIO (Sebaſtian), was born at Chetillon, on the Rhone, in the year 1515. Calvin conceived ſuch an eſteem and friendſhip for him, during the ſtay he made at Straſburg in 1540 and 1541, that he lodged him ſome days at his houſe, and procured him a regent's place in the college of Geneva. Caſtalio, after continuing in this office near three years, was forced to quit it in the year 1544, on account of ſome particular opinions which he held concerning Solomon's ſong, and Chriſt's deſcent into hell. He retired to Baſil, where he was made Greek profeſſor, and died in that place in 1564, aged 48. He incurred the high diſpleaſure of Calvin and Theodore Beza, for differing with them concerning predeſtination and the puniſhment of heretics. His works are very conſiderable, both on account of their quality and number. In 1545, he printed at Baſil four books of dialogues, containing the principal hiſtories of the bible in elegant Latin; ſo that youth might thereby make a proficiency in piety and in the Latin tongue at the ſame time. But his principal work is a Latin and French tranſlation of the ſcriptures. He began the Latin tranſlation at Geneva in 1542, and finiſhed it at Baſil in 1550. It was printed at Baſil in 1551, and dedicated by the author to Edward VI. king of England. The French verſion was dedicated to Henry II. of France, and printed at Baſil in 1555. The fault which has been moſt generally condemned in his Latin tranſlation, is the affectation of uſing only claſſical terms.

CASTALIUS FONS, (Strabo, Pauſanias); *Caſtalia*, (Pindar, Virgil): A fountain at the foot of mount Parnaſſus, in Phocis, near the temple of Apollo, or near Delphi; ſacred to the Muſes, thence called *Caſtalides*. Its murmurs were thought prophetic, (Nonnus, Lucian.) Caſtalius fons Caſtelfranco

CASTANEA, in botany. See FAGUS.

CASTANETS, CASTAGNETTES, or CASTANETTAS, a kind of muſical inſtrument, wherewith the Moors, Spaniards, and Bohemians, accompany their dances, ſarabands, and guittars. It conſiſts of two little round pieces of wood dried, and hollowed in manner of a ſpoon, the concavities whereof are placed on one another, faſtened to the thumb, and beat from time to time with the middle finger, to direct their motion and cadences. The *caſtanets* may be beat eight or nine times in the ſpace of one meaſure, or ſecond of a minute.

CASTANOVITZ, a town of Croatia, ſituated on the river Unna, which divides Chriſtendom from Turkey. E. Long. 17. 20. N. Lat. 45. 40. It is ſubject to the Houſe of Auſtria.

CASTEL (Lewis Betrand), a learned Jeſuit, was born at Montpellier in 1688, and entered among the Jeſuits in 1703. He ſtudied polite literature in his youth; and at length applied himſelf entirely to the ſtudy of mathematics and natural philoſophy. He diſtinguiſhed himſelf by writing on gravity; the mathematics; and on the muſic of colours, a very whimſical idea, which he took great pains to reduce to practice. His piece on gravity, entitled *Traité de la Peſanteur univerſelle*, was printed at Paris, in 1724. He afterwards publiſhed his *Mathematique univerſelle*; which occaſioned his being unanimouſly choſen a fellow of the Royal Society of London, without the leaſt ſolicitation. He was alſo a member of the academies of Bourdeaux and Rouen: but his *Clavecin oculaire* made the moſt noiſe; and he ſpent much time and expence in making an harpſichord for the eye, but without ſucceſs. He alſo wrote for and againſt Sir Iſaac Newton, and publiſhed ſeveral other works; the principal of which are, *Le Plan du Mathematique abregée*, and a treatiſe entitled *Optique des Colours*. He led a very exemplary life, and died in 1757.

CASTELAMARA, a town of Italy, in the kingdom of Naples, and in the hither Principato, with a biſhop's ſee, and a good harbour. E. Long. 14. 25. N. Lat. 41. 40.

CASTEL-ARAGONESE, a ſtrong town of Italy, in the iſland of Sardinia, with a biſhop's ſee, and a good harbour. It is ſeated on the N. W. coaſt of the iſland, in E. Long. 8. 57. N. Lat. 40. 56.

Castel-Branco, a town of Portugal, and capital of the province of Beira; ſeated on the river Lyra, 35 mile N. W. of Alcantara. W. Long. 8. 0. N. Lat. 39. 35.

Castel-Franco, a very ſmall, but well-fortified frontier town of the Bologneſe, in Italy, belonging to the Pope.

Castel-de-Vide, a ſmall ſtrong town of Alentejo. It was taken by Philip V. W. Long. 6. 25. N. Lat. 39. 15.

Castel-Folit, a town of Spain, in Catalonia, ſeated on an inacceſſible eminence, between Gironne and Campredon,

Caſtel Gandolpho ‖ Caſtellatio.

Campredon, about 15 miles from each, and near the river Fulva.

Castel-Gandolpho, a town of Italy, in the territory of the church, with a caſtle, to which the Pope retires in the ſummer ſeaſon; 10 miles S. by E. of Rome. E. Long. 12. 46. N. Lat. 41. 44.

Castel-Novo, a ſtrong town of Dalmatia, ſubject to the Venetians; ſeated on the gulph of Cataio, in E. Long. 18. 45. N. Lat. 42. 25.

Castel-Rodrigo, a town of Portugal, in the province of Tra-los-Montes, in W. Long. 7. 1. N. 41. 0.

Castel-Novo-de-Carfagnana, a town of Italy, in the Modeneſe, with a ſtrong fortreſs. It is the capital of the valley of Carfagoana; and ſeated on the river Serchio, 17 miles above Lucca.

Castel del Ovo, a ſmall iſland in the Tuſcan Sea, in the gulph of Naples, near a town of that name, to which it is joined by a ſtone bridge. The fortreſs is called Caſtel del Ovo, in which there is always a good garriſon.

CASTELBAR, a town of Ireland, in the county of Mayo, and province of Connaught, 35 miles N. of Galway. W. Long. 9. 25. N. Lat. 53. 45.

CASTELL (Edmund) D. D. a learned Engliſh divine of the 17th century, diſtinguiſhed by his ſkill in the eaſtern languages. He was educated at Cambridge; where he was maſter of Catharine hall, and Arabic profeſſor; and was at length canon of Canterbury. He had the greateſt ſhare in the Polyglott bible of London; and wrote the *Heptaglotton pro ſeptem Orientalibus, &c.* On this excellent work, which occupied a great part of his life, he beſtowed incredible pains and expence, even to the breaking of his conſtitution, and exhauſting of his fortune, having expended no leſs than 12,000*l.* upon that work. At length, when it was printed, the copies remained unſold upon his hands. He died in 1685; and lies buried in the church-yard of Higham Gobyon in Bedfordſhire, of which he was rector. It appears from the inſcription on his monument, which he erected in his lifetime, that he was chaplain to Charles II. He bequeathed all his oriental manuſcripts to the univerſity of Cambridge, on condition that his name ſhould be written on every copy in the collection.

CASTELLA, a town of the Mantuan, in Italy, about five miles north-eaſt of the city of Mantua. E. Long. 11. 15. N. Lat. 45. 30.

CASTELLAN, the name of a dignity or charge in Poland: The caſtellans are ſenators of the kingdom, but ſenators only of the lower claſs, who, in diets, ſit on low ſeats, behind the palatines, or great ſenators. They are a kind of lieutenants of provinces, and command a part of the palatinate under the palatine.

CASTELLANY, the territory belonging to any city or town, chiefly uſed in France and Flanders: Thus we ſay, the caſtellany of Liſle, Ypres, &c.

CASTELLARIUS, the keeper, or curator, of a caſtellum. Gruter gives an ancient ſepulchral inſcription in memory of a *caſtellarius*.

CASTELLATIO, in middle age writers, the act of building a caſtle, or of fortifying a houſe, and rendering it a caſtle.—By the ancient Engliſh laws, caſtellation was prohibited without the king's eſpecial licence.

CASTELLI (Bernard), an Italian painter, was born at Genoa in 1557; and excelled in colouring and in portraits. He was the intimate friend of Taſſo, and took upon himſelf the taſk of deſigning and etching the figures of his Jeruſalem Delivered. He died at Genoa in 1629.

Caſtelli ‖ Caſtiglione.

Valerio Caſtelli, one of his ſons, was born at Genoa in 1625, and ſurpaſſed his father. He particularly excelled in painting battles; which he compoſed with ſpirit, and executed them with ſo pleaſing a variety, and ſo great freedom of hand, as gained him univerſal applauſe. His horſes are admirably drawn, thrown into attitudes that are natural and becoming, full of motion, action, and life. In that ſtyle of painting he ſhowed all the fire of Tintoretto, united with the fine taſte of compoſition of Paolo Veroneſe. He died in 1659. The works of this maſter are not very frequent; but they are deſervedly held in very high eſteem. It is believed that a greater number of his eaſel pictures are in the collections of the nobility and gentry of England, than in any other part of Europe.

CASTELLORUM OPERATIO, caſtle-work, or ſervice and labour done by inferior tenants for the building and upholding of caſtles of defence; toward which ſome gave perſonal aſſiſtance, and others paid their contributions. This was one of the three neceſſary charges to which all lands among the Anglo-Saxons were expreſsly ſubject.

CASTELVETRO (Lewis), a native of Modena, of the 16th century, famous for his *Comment on Ariſtotle's Poetics*. He was proſecuted by the inquiſition for a certain book of Melanchthon, which he had tranſlated into Italian. He retired to Baſil, where he died.

CASTIGATION, among the Romans, the puniſhment of an offender by blows, or beating with a wand or ſwitch. Caſtigation was chiefly a military puniſhment; the power of inflicting which on the ſoldiery was given to the tribunes. Some make it of two kinds; one with a ſtick or cane called *fuſtigatio*; the other with rods, called *flagellatio*: the latter was the moſt diſhonourable.

CASTIGATORY *for* SCOLDS. A woman indicted for being a common ſcold, if convicted, ſhall be placed in a certain engine of correction, called the *trebucket*, *caſtigatory*, or *cucking-ſtool*; which, in the Saxon language, ſignifies the *ſcolding-ſtool*; though now it is frequently corrupted into the *ducking-ſtool*; becauſe the reſidue of the judgment is, that, when ſhe is placed therein, ſhe ſhall be plunged in water for her puniſhment.

CASTIGLIONE (Giovanni Benedetto), a celebrated painter, was born at Genoa in 1616. His firſt maſter was Gio-Battiſta Paggi. Afterwards he ſtudied under Andrea Ferrari; and laſtly perfected himſelf from the inſtructions of Anthony Vandyck, who at that time reſided at Genoa. He painted portraits, hiſtorical pieces, landſcapes, and caſtles: In the latter of which he is ſaid chiefly to have excelled; as alſo in fairs, markets, and all kinds of rural ſcenes. By this maſter we have alſo a great number of etchings, which are all ſpirited, free, and full of taſte. The effect is, in general, powerful and pleaſing; and many of them have a more harmonized and finiſhed appearance, than is uſual from the

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Caſtiglione
Caſtile-de-Oro.

the point, ſo little aſſiſted by the graver. His drawing of the naked figure, though by no means correct, is notwithſtanding managed in a ſtyle that indicates the hand of the maſter.

His ſon, *Franceſco*, was bred under himſelf, and excelled in the ſame ſubjects; and it is thought that many good paintings which are aſcribed to Benedetto, and are frequently ſeen at ſales, or in modern collections, are copies after him by his ſon Franceſco, or perhaps originals of the younger Caſtiglione.

CASTIGLIONE, a ſmall, but ſtrong town of Italy, in Mantua, with a caſtle. It was taken by the Germans in 1701, and the French defeated the Imperialiſts near it in 1706. E. Long. 10. 29. N. Lat. 43. 23.

CASTIGLIONI (Balthazar), an eminent Italian nobleman, deſcended from an illuſtrious and ancient family, and born at his own villa at Caſalico in the duchy of Milan in 1478. He ſtudied painting, ſculpture, and architecture, as appears from a book he wrote in favour of theſe arts; and excelled ſo much in them, that Raphael Urbino, and Buonaroti, though incomparable artiſts, never thought their works complete without the approbation of Count Caſtiglioni. When he was 26 years of age, Guido Ubaldo, Duke of Urbino, ſent him ambaſſador to Pope Julius II. He was ſent upon a ſecond embaſſy to Louis XII. of France, and upon a third to Henry VII. of England. After he had diſpatched his buſineſs here, he returned, and began his celebrated work intitled *the Courtier*; which he completed at Rome in 1516. This work is full of moral and political inſtruction; and if we ſeek for the Italian tongue in perfection, it is ſaid to be nowhere better found than in this performance. A verſion of this work, together with the original Italian, was publiſhed at London in 1727, by A. P. Caſtiglioni, a gentleman of the ſame family, who reſided there under the patronage of Dr Gibſon biſhop of London. Count Caſtiglioni was ſent by Clement VII. to the court of the Emperor Charles V. in quality of legate, and died at Toledo in 1529.

CASTILE (New), or THE KINGDOM OF TOLEDO, a province of Spain, bounded on the north by Old Caſtile, on the eaſt by the kingdoms of Arragon and Valencia, on the ſouth by that of Murcia and Andaluſia, and on the weſt by the kingdom of Leon. It is divided into three parts; Argaria to the north, Mancha to the eaſt, and Sierra to the ſouth. Madrid is the capital. Both theſe provinces are very well watered with rivers, and the air is generally pure and healthy; but the land is mountainous, dry, and uncultivated, through the lazineſs of the inhabitants. The north part produces fruits and wine, and the ſouth good paſtures and fine wool. Theſe provinces are divided by a long chain of mountains, which run from eaſt to weſt.

Caſtile (Old), a province of Spain, with the title of a kingdom. It is about 192 miles in length, and 115 in breadth; bounded on the ſouth by New Caſtile, on the eaſt by Arragon and Navarre, on the north by Biſcay and Aſturia, and on the weſt by the kingdom of Leon. Burgos is the capital town.

Caſtile-de-Oro, a large and fertile country in South America, lying to the weſt of Oroonoko. It comprehends eight governments; viz. Terra Firma, Proper Carthagena, St Martha, Rio de la Hacha, Venituela, New Andaluſia, Popayan, and the new kingdom of Granada.

Caſtile
Caſtor.

CASTILLAN, or CASTILLANE, a gold coin, current in Spain, and worth fourteen rials and ſixteen deniers.

CASTILLAN is alſo a weight uſed in Spain for weighing gold. It is the hundredth part of a pound Spaniſh weight. What they commonly call a weight of gold in Spain, is always underſtood of the caſtillan.

CASTILLARA, a town of the Mantuan in Italy, ſituated ſix miles north-eaſt of the city of Mantua. E. Long. 11. 25. N. Lat. 45. 20.

CASTILLON, a town of Perigort, in the province of Guienne in France, ſituated on the river Dordonne, 16 miles eaſt of Bourdeaux. W. Long. 2. 40. N. Lat. 44. 50.

CASTING, in foundery, the running a metal into a mould, prepared for that purpoſe.

Casting of Metals, of Letters, Bells, &c. See the article FOUNDERY.

Casting in Sand or Earth is the running of metals between two frames, or molds, filled with ſand or earth, wherein the figure that the metal is to take has been impreſſed *en creux*, by means of the pattern.

CASTING, among ſculptors, implies the taking of caſts and impreſſions of figures, buſts, medals, leaves, &c.

The method of taking of caſts of figures and buſts is moſt generally by the uſe of plaſter of Paris, *i. e.* alabaſter calcined by a gentle heat. The advantage of uſing this ſubſtance preferably to others, is, that notwithſtanding a ſlight calcination reduces it to a pulverine ſtate, it becomes again a tenacious and cohering body, by being moiſtened with water, and afterwards ſuffered to dry; by which means either a concave or a convex figure may be given by a proper mold or model to it when wet, and retained by the hardneſs it acquires when dry: and from theſe qualities, it is fitted for the double purpoſe of making both caſts, and molds for forming thoſe caſts. The particular manner of making caſts depends on the form of the ſubject to be taken. Where there are no projecting parts, it is very ſimple and eaſy; as likewiſe where there are ſuch as form only a right or any greater angle with the principal ſurface of the body: but where parts project in leſſer angles, or form a curve inclined towards the principal ſurface of the body, the work is more difficult.

The firſt ſtep to be taken is the forming the mold. In order to this, if the original or model be a baſs relief, or any other piece of a flat form, having its ſurface firſt well greaſed, it muſt be placed on a proper table, and ſurrounded by a frame, the ſides of which muſt be at ſuch a diſtance from it as will allow a proper thickneſs for the ſides of the mold. As much plaſter as will be ſufficient to cover and riſe to ſuch a thickneſs as may give ſufficient ſtrength to the mold, as alſo to fill the hollow betwixt the frame and the model, muſt be moiſtened with water, till it be juſt of ſuch conſiſtence as will allow it to be poured upon the model. This muſt be done as ſoon as poſſible; or the plaſter would concrete or ſet, ſo as to become more troubleſome in the working, or unfit to be uſed. The whole muſt then be ſuffered to remain in this condition, till the plaſter has attained its hardneſs: and then the frame being taken away, the preparatory

Caſting. caſt or mold thus formed may be taken off from the ſubject entire.

Where the model or original ſubject is of a round or crect form, a different method muſt be purſued; and the mold muſt be divided into ſeveral pieces: or if the ſubject conſiſts of detached and projecting parts, it is frequently moſt expedient to caſt ſuch parts ſeparately, and afterwards join them together.

Where the original ſubject or mold forms a round, or ſpheroid, or any part of ſuch round or ſpheroid, more than one half the plaſter muſt be uſed without any frame to keep it round the model; and muſt be tempered with water to ſuch a conſiſtence, that it may be wrought with the hand like very ſoft paſte; but though it muſt not be ſo fluid as when prepared for flat figured models, it muſt yet be as moiſt as is compatible with its cohering ſufficiently to hold together: and being thus prepared, it muſt be put upon the model, and compreſſed with the hand, or any flat inſtrument, that the parts of it may adapt themſelves, in the moſt perfect manner, to thoſe of the ſubject, as well as be compact with reſpect to themſelves. When the model is ſo covered to a convenient thickneſs, the whole muſt be left at reſt till the plaſter be ſet and firm, ſo as to bear dividing without falling to pieces, or being liable to be put out of its form by ſlight violence; and it muſt then be divided into pieces, in order to its being taken off from the model, by cutting it with a knife with a very thin blade; and being divided, muſt be cautiouſly taken off, and kept till dry: but it muſt be always carefully obſerved, before the ſeparation of the parts be made, to notch them croſs the joints, or lines of the diviſion, at proper diſtances, that they may with eaſe and certainty be properly conjoined again; which would be much more precarious and troubleſome without ſuch directive marks. The art of properly dividing the molds, in order to make them ſeparate from the model, requires more dexterity and ſkill than any other thing in the art of caſting; and does not admit of rules for the moſt advantageous conduct of it in every caſe. Where the ſubject is of a round or ſpheroidal form, it is beſt to divide the mold into three parts, which will then eaſily come off from the model; and the ſame will hold good of a cylinder or any regular curve figure.

The mold being thus formed, and dry, and the parts put together, it muſt be firſt greaſed, and placed in ſuch a poſition that the hollow may lie upwards, and then filled with plaſter mixed with water, in the ſame proportion and manner as was directed for the caſting the mold: and when the caſt is perfectly ſet and dry, it muſt be taken out of the mold, and repaired where it is neceſſary; which finiſhes the operation.

This is all that is required with reſpect to ſubjects where the ſurfaces have the regularity above mentioned: but where they form curves which interſect each other, the conduct of the operation muſt be varied with reſpect to the manner of taking the caſt of the mold from off the ſubject or model; and where there are long projecting parts, ſuch as legs or arms, they ſhould be wrought in ſeparate caſts. The operator may eaſily judge from the original ſubjects, what parts will come off together, and what require to be ſeparated: the principle of the whole conſiſts only in this, that where under-workings, as they are called, occur, Caſting. that is, wherever a ſtraight line drawn from the baſis or inſertion of any projection, would be cut or croſſed by any part of ſuch projection, ſuch part cannot be taken off without a diviſion; which muſt be made either in the place where the projection would croſs the ſtraight line; or, as that is frequently difficult, the whole projection muſt be ſeparated from the main body, and divided alſo lengthwiſe into two parts: and where there are no projections from the principal ſurfaces, but the body is ſo formed as to render the ſurface a compoſition of ſuch curves, that a ſtraight line being drawn parallel to the ſurface of one part would be cut by the outline, in one or more places, of another part, a diviſion of the whole ſhould be made, ſo as to reduce the parts of it into regular curves, which muſt then be treated as ſuch.

In larger maſſes, where there would otherwiſe be a great thickneſs of the plaſter, a corps or body may be put within the mold, in order to produce a hollow in the caſt; which both ſaves the expence of the plaſter, and renders the caſt lighter.

This corps may be of wood, where the forming a hollow of a ſtraight figure, or a conical one with the baſis outward, will anſwer the end: but if the cavity require to be round, or of any curve figure, the corps cannot be then drawn while entire; and conſequently ſhould be of ſuch matter as may be taken out piecemeal. In this caſe, the corps is beſt formed of clay; which muſt be worked upon wires to give it tenacity, and ſuſpended in the hollow of the mold, by croſs wires lying over the mouth; and when the plaſter is ſufficiently ſet to bear handling, the clay muſt be picked out by a proper inſtrument.

Where it is deſired to render the plaſter harder, the water with which it is tempered ſhould be mixed with parchment ſize properly prepared, which will make it very firm and tenacious.

In the ſame manner, figures, buſts, &c. may be caſt of lead, or any other metal, in the molds of plaſter: only the expence of plaſter, and the tediouſneſs of its becoming ſufficiently dry, when in a very large maſs, to bear the heat of melted metal, render the uſe of clay, compounded with ſome other proper materials, preferable where large ſubjects are in queſtion. The clay, in this caſe, ſhould be waſhed over till it be perfectly free from gravel or ſtones; and then mixed with a third or more of fine ſand to prevent its cracking; or, inſtead of ſand, coal-aſhes ſifted fine may be uſed. Whether plaſter or clay be employed for the caſting in metal, it is extremely neceſſary to have the mold perfectly dry; otherwiſe the moiſture, being rarified, will make an expulſion that will blow the metal out of the mold, and endanger the operator, or at leaſt crack the mold in ſuch a manner as to fruſtrate the operation. Where the parts of a mold are larger, or project much, and conſequently require a greater tenacity of the matter they are formed of to keep them together, flocks of cloth, prepared like thoſe deſigned for paper-hangings, or fine cotton plucked or cut till it is very ſhort, ſhould be mixed with the aſhes or ſand before they are added to the clay to make the compoſition for the mold. The proportion ſhould be according to the degree of cohеſion required: but a ſmall quantity will anſwer the end, if the other ingredients

Caſting. of the compoſition be good, and the parts of the mold properly linked together by means of the wires above directed.

There is a method of taking caſts in metals from ſmall animals, and the parts of vegetables, which may be practiſed for ſome purpoſes with advantage: particularly for the decorating grottoes or rock-work, where nature is imitated. The proper kinds of animals are lizards, ſnakes, frogs, birds, or inſects; the caſts of which, if properly coloured, will be exact repreſentations of the originals.

This is to be performed by the following method. A coffin or proper cheſt for forming the mold being prepared of clay, or four pieces of boards fixed together, the animal or parts of vegetables muſt be ſuſpended in it by a ſtring; and the leaves, tendrils, or other detached parts of the vegetables, or the legs, wings, &c. of the animals, properly ſeparated and adjuſted in their right poſition by a ſmall pair of pincers: a due quantity of plaſter of Paris and calcined talc, in equal quantities, with ſome alumen plumoſum, muſt then be tempered with water to the proper conſiſtence for caſting; and the ſubject from whence the caſt is to be taken, as alſo the ſides of the coffin, moiſtened with ſpirit of wine. The coffin or cheſt muſt then be filled with the tempered compoſition of the plaſter and talc, putting at the ſame time a piece of ſtraight ſtick or wood to the principal part of the body of the ſubject, and pieces of thick wire to the extremities of the other parts, in order that they may form, when drawn out after the matter of the mold is properly ſet and firm, a channel for pouring in the melted metal, and vents for the air; which otherwiſe, by the rarefaction it would undergo from the heat of the metal, would blow it out or burſt the mold. In a ſhort time the plaſter and talc will ſet and become hard, when the ſtick and wires may be drawn out, and the frame or coffin in which the mold was caſt taken away: and the mold muſt then be put firſt into a moderate heat, and afterwards, when it is as dry as can be rendered by that degree, removed into a greater; which may be gradually increaſed till the whole be red-hot. The animal, or part of any vegetable, which was included in the mold, will then be burnt to a coal; and may be totally calcined to aſhes, by blowing for ſome time gently into the channel and paſſages made for pouring in the metal, and giving vent to the air, which will, at the ſame time that it deſtroys the remainder of the animal or vegetable matter, blow out the aſhes. The mold muſt then be ſuffered to cool gently; and will be perfect; the deſtruction of the ſubſtance of the animal or vegetable having produced a hollow of a figure correſpondent to it: but it may be nevertheleſs proper to ſhake the mold, and turn it upſide down, as alſo to blow with the bellows into each of the air-vents, in order to free it wholly from any remainder of the aſhes; or, where there may be an opportunity of filling the hollow with quickſilver without expence, it will be found a very effectual method of clearing the cavity, as all duſt, aſhes, or ſmall detached bodies will neceſſarily riſe to the ſurface of the quickſilver, and be poured out with it. The mold being thus prepared, it muſt be heated very hot when uſed, if the caſt be made with copper or braſs: but a leſs degree will ſerve for lead or tin: and the matter being poured in, the mold muſt be gently ſtruck: and then ſuffered to reſt till it be cold: at which time it muſt be carefully taken from the caſt, but without the leaſt force; for ſuch parts of the matter as appear to adhere more ſtrongly, muſt be ſoftened by ſoaking in water, till they be entirely looſened, that none of the more delicate parts of the caſt may be broken off or bent. Caſting.

Where the alumen plumoſum, or talc, cannot eaſily be procured, the plaſter may be uſed alone; but it is apt to be calcined by the heat uſed in burning the animal or vegetable from whence the caſt is taken, and to become of too incohering and crumbly a texture: or, for cheapneſs, Sturbridge or any other good clay, waſhed over till it be perfectly fine, and mixed with an equal part of ſand, and ſome flocks cut ſmall, may be employed. Pounded pumice-ſtone and plaſter of Paris, taken in equal quantities, and mixed with waſhed clay in the ſame proportion, is ſaid to make excellent molds for this and parallel uſes.

Caſts of metals, or ſuch ſmall pieces as are of a ſimilar form, may be made in plaſter by the method directed for baſs relievos.

Indeed there is nothing more required than to form a mold by laying them on a proper board; and having ſurrounded them by a rim made of a piece of a card, or any other paſteboard, to fill the rim with ſoft tempered plaſter of Paris; which mold, when dry, will ſerve for ſeveral caſts. It is nevertheleſs a better method to form the mold of melted ſulphur; which will produce a ſharper impreſſion in the caſt, and be more durable than thoſe made of plaſter.

The caſts are likewiſe frequently made of ſulphur, which being melted muſt be treated exactly in the ſame manner as the plaſter.

For taking caſts from medals, Dr Lewis recommends a mixture of flowers of brimſtone and red lead: equal parts of theſe are to be put over the fire in a laddle, till they ſuſten to the conſiſtence of pap; then they are kindled with a piece of paper, and ſtirred for ſome time. The veſſel being afterwards covered cloſe, and continued on the fire, the mixture grows fluid in a few minutes. It is then to be poured on the metal, previouſly oiled and wiped clean. The caſts are very neat; their colour ſometimes a pretty deep black, ſometimes a dark grey: they are very durable; and when ſoiled, may be waſhed clean in ſpirits of wine. *Philoſoph. Commerce of Arts.*

Dr Letſom recommends tin-foil for taking off caſts from medals. The thineſt kind is to be uſed. It ſhould be laid over the ſubject from which the impreſſion is to be taken, and then rubbed with a brush, the point of a ſkewer, or a pin, till it has perfectly received the impreſſion. The tin-foil ſhould now be pared cloſe to the edge of the medal, till it is brought to the ſame circumference: the medal muſt then be reverſed, and the tin-foil will drop off into a chip-box or mold placed ready to receive it. Thus the concave ſide of the foil will be uppermoſt, and upon this plaſter of Paris, prepared in the uſual manner, may be poured. When dry, the whole is to be taken out, and the tin-foil ſticking on the plaſter will give a perfect repreſentation of the medal, almoſt equal in beauty to ſilver. If the box or mold is a little larger than the medal, the plaſter running round the tin-foil will give the appearance of a white frame or circular border; *Natural Compendium*

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Caſting. border; whence the new made medal will appear more neat and beautiful.

Caſts may be made likewiſe with iron, prepared in the following manner: "Take any iron-bar, or piece of a ſimilar form; and having heated it red-hot, hold it over a veſſel containing water, and touch it very ſlightly with a roll of ſulphur, which will immediately diſſolve it, and make it fall in drops into the water. As much iron as may be wanted being thus diſſolved, pour the water out of the veſſel; and pick out the drops formed by the melted iron from thoſe of the ſulphur, which contain little or no iron, and will be diſtinguiſhable from the other by their colour and weight." The iron will, by this means, be rendered ſo fuſible, that it will run with leſs heat than is required to melt lead; and may be employed for making caſts of medals, and many other ſuch purpoſes, with great convenience and advantage.

Impreſſions of medals, having the ſame effect as caſts, may be made alſo of iſinglaſs glue, by the following means. Melt the iſinglaſs, beaten, as when commonly uſed, in an earthen pipkin, with the addition of as much water as will cover it, ſtirring it gently till the whole is diſſolved: then with a bruſh of camel's hair, cover the medal, which ſhould be previouſly well cleanſed and warmed, and then laid horizontally on a board or table, greaſed in the part around the medal. Let them reſt afterwards till the glue be properly hardened; and then, with a pin, raiſe the edge of it; and ſeparate it carefully from the medal: the caſt will be thus formed by the glue as hard as horn; and ſo light, that a thouſand will ſcarcely weigh an ounce. In order to render the relief of the medal more apparent, a ſmall quantity of carmine may be mixed with the melted iſinglaſs; or the medal may be previouſly coated with leaf-gold by breathing on it, and then laying it on the leaf, which will by that means adhere to it: but the uſe of leaf-gold is apt to impair a little the ſharpneſs of the impreſſion.

Impreſſions of medals may be likewiſe taken in putty; but it ſhould be the true kind made of calx of tin, and drying oil. Theſe may be formed in the molds, previouſly taken in plaſter or ſulphur; or molds may be made in its own ſubſtance, in the manner directed for thoſe of the plaſter. Theſe impreſſions will be very ſharp and hard; but the greateſt diſadvantage that attends them, is their drying very ſlowly, and being liable in the mean time to be damaged.

Impreſſions of prints, or other engravings, may be taken from copper-plates, by cleanſing them thoroughly, and pouring plaſter upon them: but the effect in this way is not ſtrong enough for the eye; and therefore the following method is preferable, where ſuch impreſſions on plaſter are deſired.

Take vermilion, or any other coloured pigment, finely powdered, and rub it over the plate: then paſs a folded piece of paper, or the flat part of the hand, over the plate, to take off the colour from the lights or parts where there is no engraving: the proceeding muſt then be the ſame as where no colour is uſed. This laſt method is alſo applicable to the making of impreſſions of copper-plates on paper with dry colours: for the plate being prepared as here directed, and laid on the paper properly moiſtened, and either paſſed under the rolling-preſs, or any other way ſtrongly forced down on the paper, an impreſſion of the engraving will be obtained. Caſting.

Impreſſions may be likewiſe taken from copper-plates, either on plaſter or paper, by means of the ſmoke of a candle or lamp: if, inſtead of rubbing them with any colour, the plate be held over the candle or lamp till the whole ſurface become black, and then wiped off by the flat of the hand, or paper.

Theſe methods are not, however, of great uſe in the caſe of copper-plates, except where impreſſions may be deſired on occaſions where printing-ink cannot be procured: but as they may be applied likewiſe to the taking impreſſions from ſnuff-boxes, or other engraved ſubjects, by which means deſigns may be inſtantly borrowed by artiſts or curious perſons, they may in ſuch inſtances be very uſeful.

The expedient of taking impreſſions by the ſmoke of a candle or lamp may be employed alſo for botanical purpoſes in the caſe of leaves, as a perfect and durable repreſentation of not only the general figure, but the conteature and diſpoſition of the larger fibres, may be extemporaneouſly obtained at any time. The ſame may be nevertheleſs done in a more perfect manner, by the uſe of linſeed oil, either alone, or mixed with a ſmall proportion of colour, where the oil can be conveniently procured: but the other method is valuable on account of its being practicable at almoſt all ſeaſons, and in all places, within the time that the leaves will keep freſh and plump. In taking theſe impreſſions, it is proper to bruiſe the leaves, ſo as to take off the projections of the large ribs, which might prevent the other parts from plying to the paper.

Leaves, as alſo the petals, or flower-leaves, of plants, may themſelves be preſerved on paper, with their original appearance, for a conſiderable length of time, by the following means.—Take a piece of paper, and rub it over with iſinglaſs glue treated as above directed for taking impreſſions from medals; and then lay the leaves in a proper poſition on the paper. The glue laid on the paper being ſet, bruſh over the leaves with more of the ſame; and that being dry likewiſe, the operation will be finiſhed, and the leaves ſo ſecured from the air and moiſture, that they will retain their figure and colour much longer than by any other treatment.

Butterflies, or other ſmall animals of a flat figure, may alſo be preſerved in the ſame manner.

Caſting is alſo ſometimes uſed for the quitting, laying, or throwing aſide any thing; thus deer caſt their horns, ſnakes their ſkins, lobſters their ſhells, hawks their feathers, *&c.* annually.

Caſting of feathers is more properly called *moulting* or *mewing*.

A horſe *caſts* his hair, or coat, at leaſt once a-year, viz. in the ſpring when he caſts his winter coat; and ſometimes, at the cloſe of autumn, he caſts his ſummer coat, in caſe he has been ill kept. Horſes alſo ſometimes *caſt* their hoofs, which happens frequently to coach-horſes brought from Holland: theſe, being bred in a moiſt marſhy country, have their hoofs too flabby: ſo that coming into a drier ſoil, and leſs juicy provender,

Casting, Castle.

der, their hoofs fall off, and others that are firmer succeed.

Casting a Colt, denotes a mare's proving abortive.

Casting-Net, a sort of fishing-net so called, because it is to be *cast*, or thrown out; which, when exactly done, nothing escapes it, but weeds and every thing within its extent are brought away.

CASTLE, a fortress, or place rendered defensible either by nature or art. It frequently signifies with us the principal mansion of noblemen. In the time of Henry II. there were no less than 1115 castles in England, each of which contained a manor.

Castles, walled with stone, and designed for residence as well as defence, are, for the most part, according to Mr Grose, of no higher antiquity than the conquest: for although the Saxons, Romans, and even, according to some writers on antiquity, the ancient Britons, had castles built with stone; yet these were both few in number, and, at that period, through neglect or invasions, either destroyed, or so much decayed, that little more than their ruins were remaining. This is asserted by many of our historians and antiquaries, and assigned as a reason for the facility with which William made himself master of this country.

Grose's Antiquities of England and Wales, Vol I. Preface.

This circumstance was not overlooked by so good a general as the Conqueror; who, effectually to guard against invasions from without, as well as to awe his newly acquired subjects, immediately began to erect castles all over the kingdom, and likewise to repair and augment the old ones. Besides, as he had parcelled out the lands of the English amongst his followers, they, to protect themselves from the resentment of those so despoiled, built strong-holds and castles on their estates. This likewise caused a considerable increase of these fortresses; and the turbulent and unsettled state of the kingdom in the succeeding reigns, served to multiply them prodigiously, every baron or leader of a party building castles; insomuch, that towards the latter end of the reign of king Stephen, they amounted to the almost incredible number of 1115.

As the feudal system gathered strength, these castles became the heads of baronies. Each castle was a manor: and its castelain, owner, or governor, the lord of that manor. Markets and fairs were directed to be held there; not only to prevent frauds in the king's duties or customs, but also as they were esteemed places where the laws of the land were observed, and as such had a very particular privilege. But this good order did not long last: for the lords of castles began to arrogate to themselves a royal power, not only within their castles, but likewise its environs; exercising judicature both civil and criminal, coining of money, and arbitrarily seizing forage and provision for the subsistence of their garrisons, which they afterwards demanded as a right: at length their insolence and oppression grew to such a pitch, that, according to William of Newbury, "there were in England as many kings, or rather tyrants, as lords of castles;" and Matthew Paris stylea them, very nests of devils and dens of thieves. Castles were not solely in the possession of the crown and the lay barons, but even bishops had these fortresses; though it seems to have been contrary to the canons, from a plea made use of in a general council, in favour of king Stephen, who had seized upon the strong castles of the bishops of Lincoln and Salisbury. This prohibition (if such existed) was however very little regarded; as in the following reigns many strong places were held, and even defended, by the ecclesiastics: neither was more obedience afterwards paid to a decree made by the Pope at Viterbo, the fifth of the kalends of June 1220, wherein it was ordained, that no person in England should keep in his hands more than two of the king's castles. Castle.

The licentious behaviour of the garrisons of these places becoming intolerable, in the treaty between king Stephen and Henry II. when only duke of Normandy, it was agreed, that all the castles built within a certain period should be demolished; in consequence of which many were actually razed, but not the number stipulated.

The few castles in being under the Saxon government, were probably, on occasion of war or invasions, garrisoned by the national militia, and at other times slightly guarded by the domestics of the princes or great personages who resided therein; but after the conquest, when all the estates were converted into baronies held by knight's service, castle-guard coming under that denomination, was among the duties to which particular tenants were liable. From these services the bishops and abbots, who till the time of the Normans had held their lands in frank almoign, or free alms, were, by this new regulation, not exempted; they were not indeed, like the laity, obliged to personal service, it being sufficient that they provided fit and able persons to officiate in their stead. This was however at first stoutly opposed by Anselm archbishop of Canterbury; who being obliged to find some knights to attend king William Rufus in his wars in Wales, complained of it as an innovation and infringement of the rights and immunities of the church.

It was no uncommon thing for the Conqueror and the kings of those days, to grant estates to men of approved fidelity and valour, on condition that they should perform castle-guard in the royal castles, with a certain number of men, for some specified time; and sometimes they were likewise bound by their tenures to keep in repair and guard some particular tower or bulwark, as was the case at Dover castle.

In process of time these services were commuted for annual rents, sometimes styled *ward-penny*, and wayt-see, but commonly *castle-guard* rents, payable on fixed days, under prodigious penalties called *forfeits*. At Rochester, if a man failed in the payment of his rent of castle-guard on the feast of St Andrew, his debt was doubled every tide during the time for which the payment was delayed. These were afterwards restrained by an act of parliament made in the reign of king Henry VIII. and finally annihilated, with the tenures by knight's service, in the time of Charles II. Such castles as were private property were guarded either by mercenary soldiers, or the tenants of the lord or owner.

Castles which belonged to the crown, or fell to it either by forfeiture or escheat (circumstances that frequently happened in the distracted reigns of the feudal times), were generally committed to the custody of some trusty person, who seems to have been indifferently styled governor and constable. Sometimes also they were put into the possession of the sheriff of the county, who often

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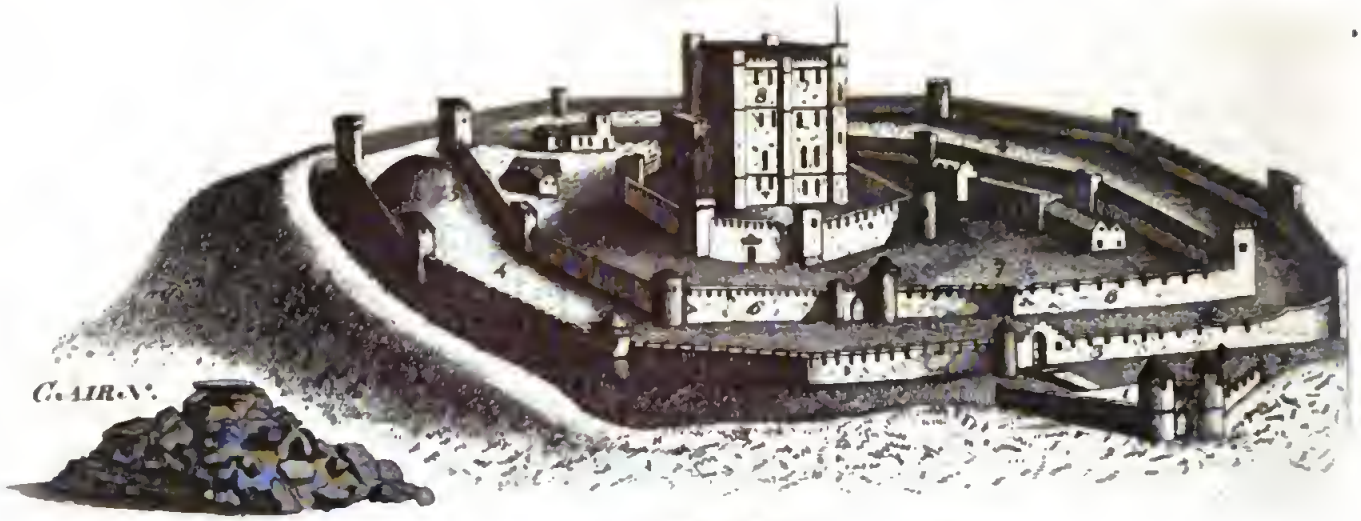
CASTLE.



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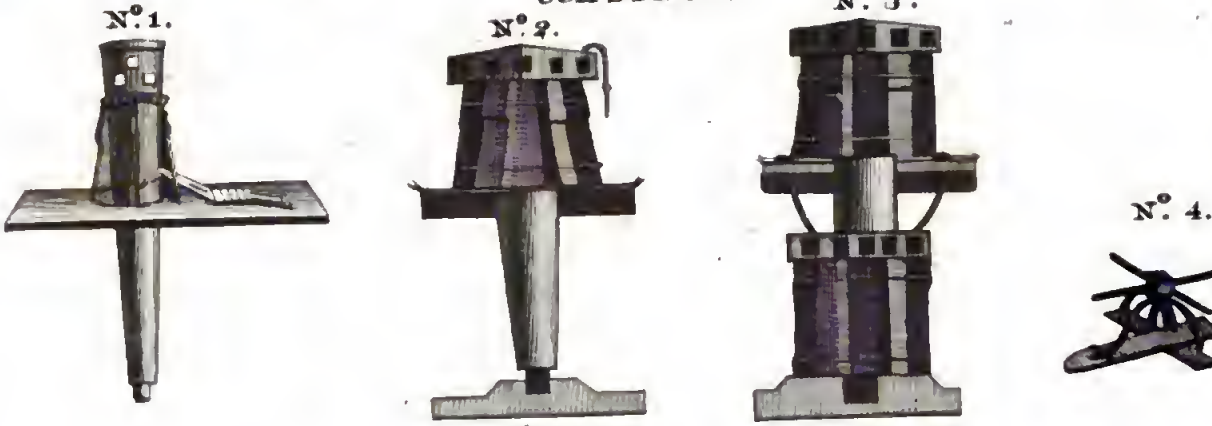

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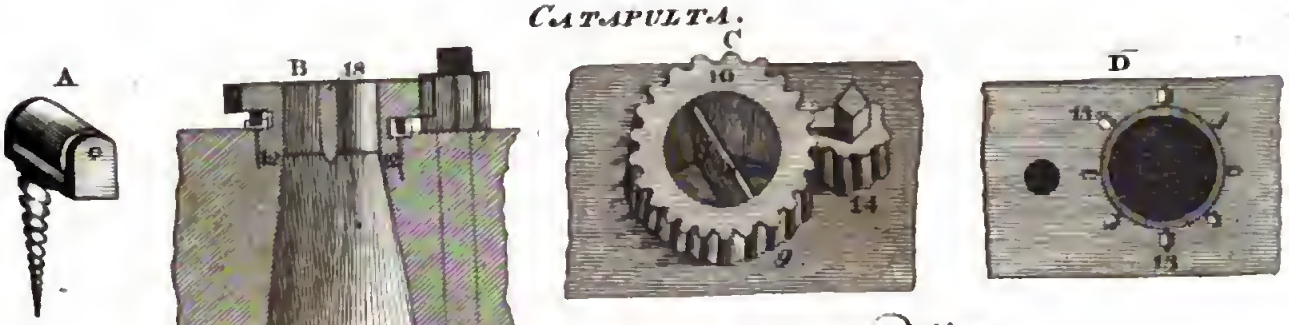

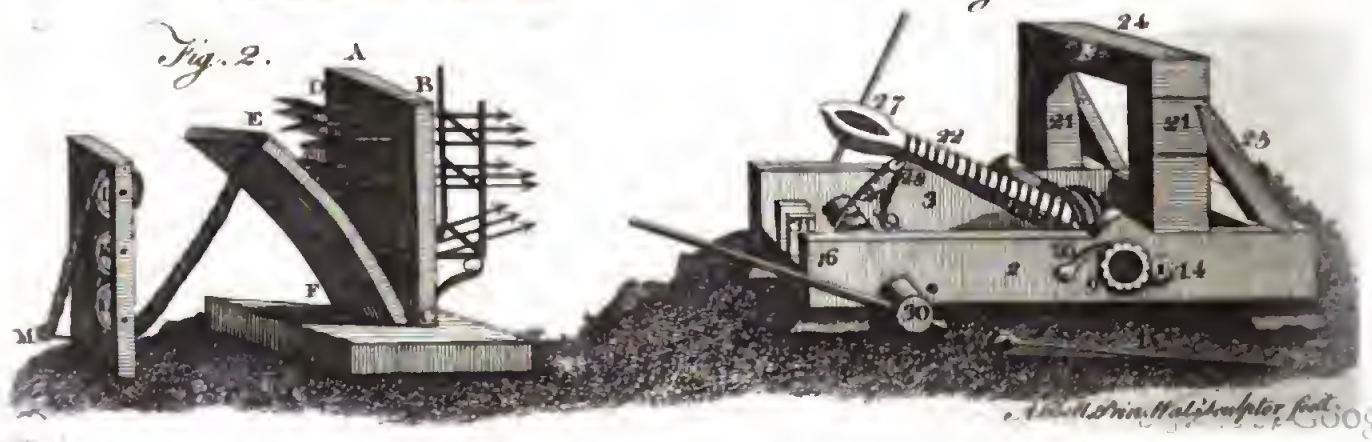

Caſtle. often converted them into priſons. That officer was thrn accountable at the exchequer, for the ſarm or produce of the lands belonging to the places entruſtrd to his care, as well as all other profits: he was likewiſe, in caſe of war or invaſion, obliged to victual and furniſh them with munition out of the iſſues of his county; to which he was directed by writ of privy ſeal.

The materials of which caſtles were built, varird according to the places of their erection; but the manner of their conſtruction ſeems to have been pretty uniform. The outſides of the walls were generally built with the ſtonrs nearеſt at hand, laid as regularly as their ſhapes would admit; the inſides were filled up with the like materials, mixed with a great quantity of fluid mortar, which was called by the workmen grout-work.

The general ſhape or plan of theſe caſtles depended entirely on the caprice of the architects, or the form of the ground intended to be occupied: neither do they ſeem to have confined themſelves to any particular figure in their towers; ſquare, round, and poligonal, oftentimes occurring in the original parts of the ſame building.

The ſituation of the caſtles of the Anglo-Norman kings and barons, was moſt commonly on an eminence, and near a river; a ſituation on ſeveral accounts eligible. The whole ſite of the caſtle (which was frequeotly of great extent and irregular figure) was ſurrounded by a deep and broad ditch, ſometimes filled with water, and ſometimes dry, called the *foſſe*. Before the great gate was an outwork, called a *barbacan*, or *antemural*, which was a ſtrong and high wall, with turrets upon it, deſigned for the defence of the gate and draw-bridge. On the inſide of the ditch ſtood the wall of the caſtle, about eight or ten feet thick, and between 20 and 30 feet high, with a parapet, and a kind of embraſures, called *crenaels*, on the top. On this wall at proper diſtaoces ſquare towers of two or three ſtories high were built, which ſerved for lodging ſome of the principal officers of the proprietor of the caſtle, and for other purpoſes; and on the inſide were erected lodgings for the common ſervants or retainers, graoaries, ſtorehouſes, and other neceſſary offices. On the top of this wall, and oo the flat roofs of theſe buildings, ſtood the defenders of the caſtle, when it was beſieged, and from thence diſcharged arrows, darts, and ſtones, on the beſiegers. The great gate of the caſtle ſtood in the courſe of thia wall, and was ſtrongly fortified with a tower on each ſide, aod rooms over the paſſage, which was cloſed with thick folding-doors of oak, ofteo plated with iron, and with an iron porteullis or grate let down from above. Within this outward wall was a large open ſpace or court, called, in the largeſt and moſt perfect caſtles, the *outer bayle*, or *ballium*, in which ſtood commonly a church or chapel. On the inſide of this outer bayle was another ditch, wall, gate, and towers, incloſing the inoer bayle or court, within which the chief tower or *keep* was built. This waa a very large ſquare fabric, four or five ſtories high, having ſmall windows in prodigious thick walls, which rendered the apartments within it dark and gloomy. This great tower was the palace of the prince, prelate, or baron, to whom the caſtle belonged, and the reſidence of the conſtable or governor. Under grouod were diſmal dark vaults, for the confinement of priſoners, which made it ſometimea be called the *dungeon*. In this building alſo was the great hall, in which the owner diſplayed his hoſpitality, by entertaining his numerous friends aod followers. At one end of the great halls of caſtles, palaces, and monaſteries, thrre was a place raiſed a little abuve the reſt of the floor, called the *dais*, where the chief table ſtood, at which perſons of the higheſt rank dined. Though there was unqueſtionably great variationa in the ſtructure of caſtles, yet the moſt perfect and magnificent of them ſeem to have been conſtructed nearly on the above plan. Such, to give one example, was the famous caſtle of Bedford, as appears from the following account of the manner in which it was taken by Henry III. A. D. 1224. The caſtle was taken by four aſſaults. "In the firſt was taken the barbican; in the ſecond the outer ballia; at the third attack, the wall by the old tower was thrown down by the miners, where, with great danger, they poſſeſſed themſelves of the inner baſha, through a chink; at the fourth aſſault the mioers ſet fire to the tower, ſo that the ſmoke burſt out, and the tower itſelf was cloven to that degree, as to ſhow viſibly ſome broad chinks: whereupon the enemy ſurrendered." See a repreſentation of a caſtle in Plate CXXVII. where 1 is the barbacan, 2 the ditch or moat, 3 the wall of the outer hallium, 4 the outer ballium, 5 the artificial mount, 6 the wall of the inner ballium, 7 the inner ballium, 8 the keep or dungeon.

Before the acceſſion of James VI. to the throne of England, the ſituation of Scotland was ſuch, that every baron's houſe was more or leſs fortified, according to the power and conſequence of its lord, or according to the ſituation of the caſtle. Near Edinburgh or Stirling, where the inhabitants were more poliſhed in their manners, and overawed by the ſeat of governmrnt, no more was neceſſary than towers capable of reſiſting the curſory attack of robbers and thieves, who never durſt ſtop to make a regular inveſtment, but plundered by ſurpriſe, and, if repulſed, inſtantly fled away. Such was Melville Caſtle. It anciently conſiſted of a ſtrong built tower of three ſtories, embattled at the top, and was ſufficiently ſtrong to reſiſt a ſudden attack, unaided by artillery, or other engioes of war. But, when further removed, as in Perthſhire, Inverneſsſhire, or Aberdeenſhire, then it was neceſſary to be better defended, and the aids of a peel or dungeon, with outer walls, moat, and wet ditch, barnakin, &c. added to enable the powerful lord to reſiſt the formidable attack of his powerful adverſary. The hiſtory of Scotland, ſo late as the reign of the Stuart family, affords a number of melancholy inſtanees of inveterate feuds among the greater and leſſer barons of that period; by which every mode of fortification then in uſe was ſeldom adequate to the defence of the caſtle againſt the ſtorm or blockade of the enraged chieftain. The caſtle of Duun ſeems to anſwer this drſcriptioo of fortification, and has made ſeveral gallant defences, in the annals of Scotland. The third kiod of fortreſſes we meet with in Scotland are thoſe ſituated on the borders of England, or on the ſea-coaſts of the kiogdom, and in the weſtern iſles, and very remote places. Many of the old caſtles in Scotland were ſituated on an iſland, io a deep lake, or on a peninſula, which by a broad deep cut was made an iſland. Of this kiod was Lochmaben, in the

ſtewartry

Caſtle. ſtewartry of Annandale, the caſtle of Cloſeburn in the ſhire of Nithſdale, the caſtle of the Rive, ſituated on the river Dee, in the ſhire of Galloway, Lochleven caſtle, and many others.

This kind of fortreſs was only acceſſible in a hard froſt, or by boats which were not eaſily tranſported, by a people deſtitute of good roads and wheel-carriages. In fact, they could only be taken by ſurpriſe or blockade; the firſt very difficult, the ſecond very tedious; ſo that, before the uſe of artillery, they might be deemed almoſt impregnable. On that account, their ſituation was very deſirable in the inland parts of Scotland.

On the ſea-coaſts of Scotland we generally find the ſtrongeſt and moſt ancient, as well as the moſt impregnable caſtles. Theſe had to defend themſelves from the invaſion of the foreign enemy, as well as the attacks of the domeſtic foe. Thus we find the barons, whoſe lands extended to the ſea-coaſt, perched, like the eagle, on the moſt inacceſſible rocks that lay within their poſſeſſions. Of this kind were Slains caſtle, Tantallon, and Dunotter on the eaſt coaſt, and Dunvegan in the iſle of Sky, with Dunolly on the weſt coaſt. Theſe muſt have been moſt uncomfortable retreats, except to a barbarous people, or when a preſſing danger forced the baron to ſeek his ſafety in the only poſſible retreat left him.

Caſtle, in ancient writers, denotes a town or village ſurrounded with a ditch and wall, furniſhed with towers at intervals, and guarded by a body of troops. The word is originally Latin, *caſtellum*, a diminutive from *caſtrum*. *Caſtellum* originally ſeems to have ſignified a ſmaller fort for a little garriſon: though Suetonius uſes the word where the fortification was large enough to contain a cohort. The *caſtella*, according to Vegetius, were often like towns, built on the borders of the empire, and where there were conſtant guards and fences againſt the enemy. Horſley takes them for much the ſame with what were otherwiſe denominated *ſtations*.

Caſtle, or *Caſtle-ſteed*, is alſo an appellation given by the country-people in the north to the Roman *caſtella*, as diſtinguiſhed from the *caſtra ſtativa* which they uſually call *cheſters*. Horſley repreſents this as an uſeful criterion, whereby to diſcover or diſtinguiſh a Roman camp or ſtation. There are ſeveral of theſe caſtella on Severus's wall: they are generally 60 feet ſquare; their north ſide is formed by the wall itſelf which falls in with them; the intervals between them are from ſix furlongs and an half to ſeven; they ſeem to have ſtood cloſeſt where the ſtations are wideſt. The neighbouring people call them *caſtles* or *caſtle-ſteeds*, by which it ſeems probable that their ancient Latin name had been *caſtellum*. Some modern writers call them *mile-caſtles*, or military *caſtella*: Horſley ſometimes *exploratory caſtles*. In theſe *caſtella* the *arcani* had their ſtations, who were an order of men whoſe buſineſs was to make incurſions into the enemies country, and give intelligence of their motions.

Caſtle, in the ſea language, is a part of the ſhip, of which there are two: the forecaſtle, being the elevation at the prow, or the uppermoſt deck towards the mizen, the place where the kitchens are. Hindcaſtle is the elevation which reigns on the ſtern, over the laſt deck, where the officers cabins and places of aſſembly are.

Caſtle (Edmund). See Castel.

Caſtle of Caſtor

Caſtle-Bar, a borough and market-town, capital of the county of Mayo in Ireland, is a well-inhabited place, and carries on a briſk trade: it has a barrack for a troop of horſe; and there is here a charter-ſchool capable of receiving fifty children, and endowed with two acres of land, rent-free, by the Right Honourable Lord Lucan, who has alſo granted a leaſe of twenty acres more at a pepper-corn yearly.

Caſtle-Cary, a remarkable Roman ſtation about four miles weſt from Falkirk on the borders of Stirlingſhire in Scotland. It comprehends ſeveral acres of ground, is of a ſquare form, and is ſurrounded with a wall of ſtone and mortar: all the ſpace within the walls has been occupied by buildings, the ruins of which have raiſed the earth eight or ten feet above its natural ſurface; ſo that the fort now ſeems like an hill-top ſurrounded with a ſunk fence. In 1770, ſome workmen employed in ſearching for ſtones for the great canal which paſſes very near it, diſcovered ſeveral apartments of ſtone; and in one of them a great number of ſtones about two feet in length, and ſtanding erect, with marks of fire upon them, as if they had been employed in ſupporting ſome veſſel under which fire was put. In a hollow of the rock near this place, in 1771, a conſiderable quantity of wheat quite black with age was found, with ſome wedges and hammers ſuppoſed to be Roman.

Caſtle-Riſing, a borough-town of Norfolk in England, which ſends two members to parliament. E. Long. 0. 40. N. Lat. 52. 46.

Caſtle-work, ſervice or labour done by inferior tenants, for the building and upholding caſtles of defence, toward which ſome gave their perſonal aſſiſtance, and others paid their contributions. This was one of the three neceſſary charges to which the Anglo-Saxons were expreſsly ſubject.

CASTLETOWN, the capital of the iſle of Man, ſeated on the ſouth-weſt part of the iſland. It has a ſtrong caſtle; but of no great importance, on account of its diſtance from the rocky and ſhallow harbour. W. Long. 4. 39. N. Lat. 53. 30.

CASTOR, the Beaver, in zoology, a genus of quadrupeds belonging to the order of glires. The fore-teeth of the upper jaw are truncated, and hollowed in a tranſverſe angular direction. The tops of the fore-teeth of the lower jaw lie in a tranſverſe direction; and the tail is depreſſed. There are three ſpecies of caſtor, viz.

1. The fiber, or common beaver, with a plain ovated tail, is found on the banks of the rivers in Europe, Aſia, and America. It has ſhort ears hid in the fur; a blunt noſe; the fore-feet ſmall, the hinder large: its length from noſe to tail about three feet, tail about one foot. It is from the inguinal glands of this animal that the caſtor is obtained; it is contained in cods or pouches reſembling a dog's teſticles. Nothing equals the art with which theſe animals conſtruct their dwellings. They chooſe a level piece of ground, with a ſmall rivulet running through it. This they form into a pond, by making a dam acroſs; firſt by driving into the ground ſtakes of five or ſix feet in length, placed in rows, wattling each row with pliant twigs, and filling the interſtices with clay, ramming it down cloſe. The ſide next the water is ſloped, the other perpendicular; Plate CXXI.

Caſtor. cular; the bottom is from ten to twelve feet thick; but the thickneſs gradually diminiſhes to the top, which is about two or three: the length of theſe dams is ſometimes not leſs than 100 feet. Caſtor.

Their houſes are made in the water collected by means of the dam, and are placed near the edge of the ſhore. They are built on piles; are either round or oval; but their tops are vaulted, ſo that their inſide reſembles an oven, the top a dome. The walls are two feet thick, made of earth, ſtones, and ſticks, moſt artificially laid together; and the walls within as neatly plaſtered as if with a trowel. In each houſe are two openings, the one into the water, the other towards the land. The height of theſe houſes above the water is eight feet. They often make two or three ſtories in each dwelling, for the convenience of change in caſe of floods. Each houſe contains from 20 to 30 beavers; and the number of houſes in each pond is from 10 to 25. Each beaver forms its bed of moſs; and each family forms its magazine of winter proviſions, which conſiſt of bark and boughs of trees. Thoſe they lodge under water, and fetch into their apartments as occaſion requires. Lawſon ſays, they are fondeſt of the ſaſſafras, aſh, and ſweet gum. Their ſummer food is leaves, fruits, and ſometimes crabs and craw fiſh; but they are not fond of fiſh.

To effect theſe works, a community of two or three hundred aſſembles; each bears his ſhare in the labour; ſome fall to gnawing with their teeth trees of great ſize, to form beams or piles; others roll the pieces along to the water; others dive, and with their feet ſcrape holes in order to place them in; while others exert their efforts to rear them in their proper places: another party is employed in collecting twigs to wattle the piles with; a third in collecting earth, ſtones, and clay; a fourth is buſied in beating and tempering the mortar; others in carrying it on their broad tails to proper places, and with the ſame inſtrument ram it between the piles, or plaſter the inſide of their houſes. A certain number of ſmart ſtrokes given with their tails, is a ſignal made by the overſeer for repairing to ſuch and ſuch places, either for mending any defects, or at the approach of an enemy; and the whole ſociety attend to it with the utmoſt aſſiduity. Their time of building is early in ſummer; for in winter they never ſtir but to their magazines of proviſions, and during that ſeaſon are very fat. They breed once a-year, and bring forth at the latter end of the winter two or three young at a birth.

Beſides theſe aſſociated beavers, is another ſort called *terriers*, which either want induſtry or ſagacity to form houſes like the others. They burrow in the banks of rivers, making their holes beneath the freezing depth of the water, and work up for a great number of feet. Theſe alſo form their winter ſtock of proviſion.

Beavers vary in their colours; the fineſt are black, but the general colour is a cheſnut brown, more or leſs dark: ſome have been found, but very rarely, white. The ſkins are a prodigious article of trade, being the foundation of the hat-manufactory. In 1763 were ſold, in a ſingle ſale of the Hudſon's bay company, 54,670 ſkins. They are diſtinguiſhed by different names. *Coat-beaver* is what has been worn as coverlets by the Indians: *Parchment-beaver*, becauſe the lower ſide reſembles it: *Stage-beaver* is the worſt, and is that which the Indians kill out of ſeaſon, on their ſtages or journeys.

In hunting the beavers, the ſavages ſometimes ſhoot them, always getting on the contrary ſide of the wind; for they are very ſhy, quick in hearing, and of a keen ſcent. This is generally done when the beavers are at work, or on ſhore feeding on poplar bark. If they hear any noiſe when at work, they immediately jump into the water, and continue there ſome time; and when they riſe, it is at a diſtance from the place where they went in.

They ſometimes are taken with traps: theſe are nothing but poplar ſticks laid in a path near the water; which when the beaver begins to feed upon, they cauſe a large log of wood to fall upon their necks, which is put in motion by their moving of the ſticks, and conſequently requires an ingenious contrivance. The ſavages generally prefer this way of taking them, becauſe it does not damage their ſkins.

In the winter-time they break the ice in two places at a diſtance from the houſe, the one behind the other. Then they take away the broken ice with a kind of racket, the better to ſee where to place their ſtakes. They faſten their nets to theſe, which have large meſhes, and ſometimes are eighteen or twenty yards in length. When theſe are fixed, they proceed to demoliſh the houſe, and turn a dog therein; which terrifying the beaver, he immediately leaves it, and takes to the water; after which, he is ſoon entangled by the net.

2. The moſchatus, with a long, compreſſed, lanceolated tail, and palmated feet. It has a long ſlender noſe like that of a ſhrew-mouſe; no external ears, and very ſmall eyes. Length from noſe to tail, ſeven inches; of the tail, eight. It is the water-rat of Cluſius; and inhabits Lapland, Ruſſia, the banks of the rivers Wolga and the Yaick. It never wanders far from the ſides; is very ſlow in its pace; makes holes in the cliffs, with the entrance far beneath the loweſt fall of the water; works upwards, but never to the ſurface, only high enough to be beyond the higheſt flow of the river: feeds on fiſh; is devoured by the pikes and *ſiluri*, and gives thoſe fiſh ſo ſtrong a flavour of muſk as to render them not eatable; has the ſame ſcent as the former, eſpecially about the tail, out of which is expreſſed a ſort of muſk very much reſembling the genuine kind. The ſkins are put into cheſts among clothes, to drive away moths. At Orenburgh the ſkins and tails ſell for 15 or 20 copecs *per* hundred. They are ſo common near Nizney Nuvogorod, that the peaſants bring 500 a-piece to market, where they are ſold for one ruble *per* hundred. The German name for theſe animals is *bieſemratze*; the Ruſſian, *wyſchenhol*.

3. The zibethicus, or muſk-rat, with a long, compreſſed, lanceolated tail, and the toes of the feet ſeparated from each other. Length from noſe to tail, one foot; of the tail, nine inches. This ſpecies inhabits North America, breeds three or four times in a year, and brings from three to ſix young ones at a time: during ſummer the male and female conſort together: at the approach of winter they unite in families, and retire into ſmall round edifices covered with a dome, formed of herbs and reeds cemented with

Caſtor. with clay: at the bottom are ſeveral pipes through which they paſs in ſearch of food; for they do not form magazines like the beavers: during winter their habitations are covered many feet deep with ſnow and ice; but they creep out and feed on the roots beneath: they quit their old habitations annually, and form new ones: the fur is ſoft and much eſteemed: the whole animal, during ſummer, has a moſt exquiſite ſmell of muſk, which it loſes in winter: perhaps the ſcent is derived from the calamus aromaticus, a favourite food of this animal. Leſcarbot ſays they are very good to eat.

CASTOR, in aſtronomy, a nincty of the conſtellation GEMINI; called alſo APOLLO. Its latitode northwards, for the year 1700, according to Hevelius, was 10° 4′ 23″; and its longitude, of Cancer, 16° 4′ 14″. It is alſo called Raſalgenze, Apollo, Aphellan, Avellar, and Anelar.

CASTOR and Pollux, in Pagan mythology. Jupiter having an amour with Leda, the wife of Tyndarus king of Sparta, in the form of a ſwan, ſhe brought forth two eggs, each containing twins. From that impregnated by Jupiter proceeded Pollux and Helena, who were both immortal; from the other Caſtor and Clytemneſtra, who being begot by Tyndarus were both mortal. They were all, however, called by the common name of *Tyndaridæ*. Theſe two brothers entered into an inviolable friendſhip: they went with the other noble youths of Greece in the expedition to Colchis, and, on ſeveral occaſions, ſignalized themſelves by their courage; but Caſtor being at length killed, Pollux obtained leave to ſhare his own immortality with him; ſo that they are ſaid to live and die alternately every day: for, being tranſlated into the ſkies, they form the conſtellation of gemini, one of which ſtars riſes as the other ſets.

A martial dance, called the *Pyrrhic* or *Caſtorian* dance, was invented in honour of thoſe deities whom the Cephalenſes placed among the Dii Magni, and offered to them white lambs. The Romans alſo paid them particular honours on account of the aſſiſtance they are ſaid to have given them in an engagement againſt the Latins; in which, appearing mounted on white horſes, they turned the ſcale of victory in their favour, for which a temple was erected to them in the forum.

CASTOR and *Pollux*, a fiery meteor, which at ſea appears ſometimes ſticking to a part of the ſhip, in form of one, two, or even three or four fire-balls: when one is ſeen alone, it is more properly called *Helena*; two are denominated Caſtor and Pollux, and ſometimes Tyndaridæ. Caſtor and Pollux are called by the Spaniards, San Elmo; by the French, St Elme, St Nicholas, St Clare, St Helene; by the Italians, Hermo; by the Dutch, Vree Vuuren.

Caſtor and Pollux are commonly judged to portend a ceſſation of the ſtorm, and a future calm; being rarely ſeen till the tempeſt is nigh ſpent. Helena alone portends ill, and witneſſes the ſevereſt part of the ſtorm yet behind. When the meteor ſticks to the maſts, yards, &c. they conclude, from the air's not having motion enough to diſſipate this flame, that a profound calm is at hand; if it flutter about, it indicates a ſtorm.

CASTOREUM, in the Materia Medica, CASTOR; the inguinal glands of the beaver. The ancients had a notion that it was lodged in the teſticles; and that the animals, when hard preſſed, would bite them off, and leave them to its purſuers, as if conſcious of what they wanted to deſtroy him for. The beſt ſort of caſtor is what comes from Ruſſia. So much is Ruſſian caſtor ſuperior to the American, that two guineas per pound is paid for the former, and only 8s. 6d. for the latter. The Ruſſian caſtor is in large hard round cods, which appear, when cut, full of a brittle, red, liver-coloured ſubſtance, interſperſed with membranes and fibres exquiſitely interwoven. An inferior ſort is brought from Dantzic, and is generally fat and moiſt. The American caſtor, which is the worſt of all, is in longiſh thin cods. Ruſſia caſtor has a ſtrong diſagreeable ſmell; and an acrid, bitteriſh, and naſeous taſte. Water extracts the naſeous part, with little of the finer bitter; rectified ſpirit extracts this laſt without much of the naſeous; proof-ſpirit both: water elevates the whole of its flavour in diſtillation; rectified ſpirit brings over nothing. Caſtor is looked upon as one of the capital nervine and antihyſteric medicines: ſome celebrated practitioners, nevertheleſs, have doubted its virtues; and Newman and Stahl declare it inſignificant. Experience, however, has ſhown that the virtues of caſtor are conſiderable, tho' leſs than they have been generally ſuppoſed.

Caſtoreum, Caſtration.

CASTRATION, in ſurgery, the operation of gelding, *i. e.* of cutting off the teſticles, and putting a male animal out of a capacity of generation.

Caſtration is much in uſe in Aſia, eſpecially among the Turks, who practiſe it on their ſlaves, to prevent any commerce with their women. The Turks often make a general amputation.

Caſtration alſo obtains in Italy, where it is uſed with a view to preſerve the voice for ſinging. See EUNUCH.

The Perſians, and other eaſtern nations, have divers methods of making eunuchs, different from thoſe which obtain in Europe: we ſay, of making eunuchs, for it is not always done among them by cutting, or even colliſion. Cienta and other poiſonous herbs do the ſame office, as is ſhewn by Paulus Ægineta. Thoſe eunuchiſed in this manner are called *thlibiæ*. Beſides which there is another ſort named *thlaſiæ*, in whom the genitals are left entire, and only the veins which ſhould feed them are cut; by which means the parts do indeed remain, but ſo lax and weak, as to be of no uſe.

Caſtration was for ſome time the puniſhment of adultery. By the laws of the Viſigoths, ſodomites underwent the ſame puniſhment.

By the civil law, it is made penal in phyſicians and ſurgeons to caſtrate, even with conſent of the party, who is himſelf included in the ſame penalty, and his eſtate forfeited. The offence of Mayhem by caſtration is, according to all our old writers, felony; tho' committed upon the higheſt provocation. See a record to this purpoſe of Henry III. tranſcribed by Sir Edward Coke, 3 Inſt. 62. or Blackſtone's Com. vol. iv. p. 206.

Caſtration is ſometimes found neceſſary on medicinal conſiderations, as in mortifications, and ſome other diſeaſes of the teſticles, eſpecially the *farcocele* and *varicocele*. Some have alſo uſed it in maniac caſes.

Caſtration Caſtruccio.

Caſtration is alſo in ſome ſort practiſed on women. Athenæus mentions, that king Andramytes was the firſt who caſtrated women. Heſychius and Suidas ſay Gyges did the ſame thing. Galen obſerves, that women cannot be caſtrated without danger of life; and Dalechampius, on the forementioned paſſage of Athenæus, holds, that it is only to be underſtood of ſimple padlocking.

Caſtration, in reſpect of brutes, is called Gelding and Spaying.

Caſtration alſo denotes the art of retrenching, or cutting away any part of a thing from its whole.—Caſtrating a book, among bookſellers, is the taking out ſome leaf, ſheet, or the like, which renders it imperfect and unfit for ſale. The term is alſo applied to the taking away particular paſſages, on account of their obſcenity, too great freedom with reſpect to government, &c.

Caſtration, among botaniſts, a term derived from the fancied analogy betwixt plants and animals. The caſtration of plants conſiſts in cutting off the *antheræ*, or tops of the ſtamina, before they have attained maturity, and diſperſed the pollen or fine duſt contained within their ſubſtance. This operation has been frequently practiſed by the moderns, with a view to eſtabliſh or confute the doctrine of the ſexes of plants; the antheræ or tops being conſidered by the ſexualiſts as the male organs of generation. The experiment of caſtration ſucceeds principally on plants which, like the melon, have their male flowers detached from the female. In ſuch as have both male and female flowers contained within the ſame covers, this operation cannot be eaſily performed without endangering the neighbouring organs. The reſult of experiments on this ſubject by Linnæus, Alſton, and other eminent botaniſts, may be ſeen under the article Botany, ſect. iii.

CASTREL, a kind of hawk reſembling the lanner in ſhape, but the hobby in ſize. The caſtrel is alſo called keſtrel, and is of a ſlow and cowardly kind; her game is the grous, though ſhe will kill a partridge.

CASTRES, a city of Languedoc in France, about 35 miles eaſt of Thouloufe. E. Long. 2. and N. Lat. 43. 40. It is a biſhop's ſee.

CASTRO, the capital of the iſland of Chiloe, on the coaſt of Chili in South America. W. Long. 82. S. Lat. 43.

Caſtro is alſo the capital of a duchy of the ſame name in the Pope's territories in Italy, ſituated on the confines of Tuſcany. E. Long. 12. 35. N. Lat. 42. 30.

Caſtro (Pietro de), a celebrated painter, who flouriſhed about the middle of the 17th century. The ſubjects which this great artiſt choſe to paint, were what are diſtinguiſhed by the name of ſtill life; vaſes, ſhells, muſical inſtruments, gems, veſſels of gold, ſilver, and cryſtal, books, and rich bracelets; and in thoſe ſubjects his choice and diſpoſition were elegant, and his execution admirable.

CASTRUCCIO (Caſtracani), a celebrated Italian general, was born (nobody knows of whom) at Lucca in Florence in 1284, and left in a vineyard covered with leaves, where he was found by Dianora a widow lady, the ſiſter of Antonio, a canon of St Michael in Lucca, who was deſcended from the illuſtrious family of the Caſtracani. The lady having no children, they reſolved to bring him up, and educated him as carefully as he had been their own. They intended him for a prieſt; but he was ſcarcely 14 years old when he began to devote himſelf to military ſports, and thoſe violent exerciſes which ſuited his great ſtrength of body. The factions named the *Guelfs* and *Gibelines* then ſhared all Italy between them; divided the popes and the emperors; and engaged in their diſferent intereſts not only the members of the ſame town, but even thoſe of the ſame family. Franciſco, a conſiderable perſon on the ſide of the Gibelines, obſerving Caſtruccio's uncommon ſpirit and great qualities, prevailed with Antonio to let him turn ſoldier; on which Caſtruccio ſoon became acquainted with every thing belonging to that profeſſion, and was made a lieutenant of a company of foot by Franciſco Guinigi. In his firſt campaign he gave ſuch proofs of his courage and conduct as ſpread his fame all over Lombardy; and Guinigi, dying ſoon after, committed to him the care of his ſon and the management of his eſtate. Still diſtinguiſhing himſelf by his exploits, he filled his commander in chief with ſuch jealouſy and envy, that he was impriſoned by ſtratagem in order to be put to death. But the people of Lucca ſoon releaſed him, and afterwards choſe him for their ſovereign prince. The Gibelines conſidered him as the chief of their party; and thoſe who had been baniſhed from their country fled to him for protection, and unanimouſly promiſed, that if he could reſtore them to their eſtates, they would ſerve him ſo effectually that the ſovereignty of their country ſhould be his reward. Flattered by theſe promiſes, he entered into a league with the prince of Milan. He kept his army conſtantly on foot, employing it as beſt ſuited his own deſigns. For ſervices he had done the pope, he was made ſenator of Rome with more than ordinary ceremony; but while there, received news which obliged him to haſten back to Lucca. The Florentines entered into a war with him, but Caſtruccio fought his way through them; and the ſupreme authority of Tuſcany was ready to fall into his hands, when a period was put to his life. In May 1328, he gained a complete victory over his enemies, who amounted to 30,000 foot and 10,000 horſe; in which 22,000 of them were ſlain, with the loſs of not quite 16,000 of his own men: but as he was returning from the field of battle, tired with the action, and covered with ſweat, he halted a little, in order to thank and careſs his ſoldiers as they paſſed; when, the north wind blowing upon him, he was immediately ſeized with an ague, which he at firſt neglected, but it carried him off in a few days, in the 44th year of his age. Caſtruccio.

Machiavel, who has written the life of Caſtruccio, ſays, that he was not only an extraordinary man in his own age, but would have been ſo in any other. He was of a noble aſpect, and of the moſt winning addreſs. He had all the qualities that make a man great; was grateful to his friends, juſt to his ſubjects, terrible to his enemies. No man was more forward to encounter dangers; no man more careful to eſcape them. He had an uncommon preſence of mind, and often made rapartees with great ſmartneſs. Some of them are recorded, which diſcover a ſingular turn of humour;

Caſtruccio ‖ Caſualty

and, for a ſpecimen, we ſhall mention three or four of them.—Paſſing one day through a ſtreet where there was a houſe of bad fame, he ſurpriſed a young man, who was juſt coming out, and who, upon ſeeing him, was all over bluſhes and confuſion: "Friend, you ſhould not be aſhamed when you come out, but when you go in."—One aſking a favour of him with a thouſand impertinent and ſuperfluous words: "Hark you, friend; when you would have any thing with me for the future, ſend another man to aſk it."—Another great talker having tired him with a tedious diſcourſe, excuſed himſelf at laſt, by ſaying, he was afraid he had been troubleſome. "No indeed, (replied he), for I did not mind one word you ſaid."—He was forced to put a citizen of Lucca to death, who had formerly been a great inſtrument of his advancement; and being reproached by ſomebody for having dealt ſo ſeverely with an old friend, replied, "No, you are miſtaken, it was with a new foe."—One of his courtiers, deſirous to regale him, made a ball and invited him to it. Caſtruccio came, entertained himſelf among the ladies, danced, and did other things which did not ſeem to comport with the dignity of his rank. One of his friends intimating that ſuch freedoms might diminiſh the reverence that ought to be paid him: "I thank you for your caution; but he who is reckoned wiſe all the day, will never be reckoned a fool at night."

CASTRUM DOLORIS, in middle-aged writers, denotes a catafalco, or a lofty tomb of ſtate, erected in honour of ſome perſon of eminence, uſually in the church where his body is interred; and decorated with arms, emblems, lights, and the like.

Eccleſiaſtical-writers ſpeak of a ceremony of conſecrating a *caſtrum doloris*; the edifice was to be made to repreſent the body of the deceaſed, and the prieſt and deacon were to take their poſts, and ſay the prayers after the ſame manner as if the corpſe were actually preſent.

CASTS. See CASTING.

CASU CONSIMILI, in law, a writ of entry granted where a tenant, by courteſy or for life, aliens either in fee, in tail, or for the term of another's life. It is brought by him in reverſion againſt the perſon to whom ſuch tenant does ſo alien to the prejudice of the reverſioner in the tenant's life-time.

Casu-Proviſo, in law, a writ of entry founded on the ſtatute of Glouceſter, where a tenant in dower aliens the lands ſhe ſo holds in fee, or for life; and lies for the party in reverſion againſt the alienee.

CASUAL, ſomething that happens fortuitouſly, without any deſign, or any meaſures taken to bring it to paſs.

Casual-Revenues, are thoſe which ariſe from forfeitures, confiſcations, deaths, attainders, &c.

Casual-Theology, a denomination given to what is more frequently called CASUISTRY.

CASUALTY, in a general ſenſe, denotes an accident, or a thing happening by chance, not deſign. It is particularly uſed for an accident producing unnatural death.

CASUALTY, in Scot's law. *Caſualties of a ſuperior*, are thoſe duties and emoluments which a ſuperior has right to demand out of his vaſſal's eſtate, over and beſides the conſtant yearly duties eſtabliſhed by the *reddendo* of his charter upon certain caſual events.

Caſualty ‖ Cat-gut.

CASUALTY, in Metallurgy. See CAUSALTY.

CASUIST, a perſon who propoſes to reſolve caſes of conſcience. Eſcobar has made a collection of the opinions of all the caſuiſts before him. M. Le Feore, preceptor of Louis XIII. called the books of the caſuiſts the art of quibbling with God; which does not ſeem far from truth, by reaſon of the multitude of diſtinctions and ſubtleties they abound with. Mayer has publiſhed a bibliotheca of caſuiſts, containing an account of all the writers on caſes of conſcience, ranged under three heads, the firſt comprehending the Lutheran, the ſecond the Calviniſt, and the third the Romiſh, caſuiſts.

CASUISTRY, the doctrine and ſcience of conſcience and its caſes, with the rules and principles of reſolving the ſame; drawn partly from natural reaſon or equity; partly from authority of ſcripture, the canon law, councils, fathers, &c. To caſuiſtry belongs the deciſion of all difficulties ariſing about what a man may lawfully do or not do; what is ſin or not ſin; what things a man is obliged to do in order to diſcharge his duty, and what he may let alone without breach of it.

CASUS AMISSIONIS, in Scots law, in actions proving the tenor of obligations inextinguiſhable by the debtors retiring or cancelling them, it is neceſſary for the purſuer, before he is allowed a proof of the tenor, to condeſcend upon ſuch a *caſus amiſſionis*, or accident by which the writing was deſtroyed, as ſhows it was loſt while in the writer's poſſeſſion.

CAT, in zoology. See FELIS.

CAT, in ſea-affairs, a ſhip employed in the coal-trade, formed from the Norwegian model. It is diſtinguiſhed by a narrow ſtern, projecting quarters, a deep *waiſt*, and by having ornamental figures on the prow. Theſe veſſels are generally built remarkably ſtrong, and carry from four to ſix hundred tons, or, in the language of their own mariners, from 20 to 30 *keels* of coals.

CAT, is alſo a ſort of ſtrong tackle, or combination of pullies, to hook and draw the anchor perpendicularly up to the *cat-head*. See *CAT-Heads*.

Cat's Eye, or *Sun-ſtone* of the Turks, a kind of gem found chiefly in Siberia. Cat's-eye is by the Latins called *oculus cati*, and ſometimes *onyxopalus*, as having white zones or rings like the onyx; and its colours variable like OPAL, from which laſt it differs chiefly by its ſuperior hardneſs. It is very hard, and ſemitranſparent, and has different points, from whence the light is reflected with a kind of yelloviſh radiation ſomewhat ſimilar to the eyes of cats, from whence it had its name. The beſt of them are very ſcarce, and jewellers cut them round to the greateſt advantage. One of theſe ſtones, an inch in diameter, was in the poſſeſſion of the duke of Tuſcany.

Cat-Fiſh, in ichthyology. See SQUALUS.

Cat-Gut, a denomination given to ſmall ſtrings for fiddles, and other inſtruments, made of the inteſtines of ſheep or lambs, dried and twiſted together, either ſingly, or ſeveral together. Theſe are ſometimes coloured red, ſometimes blue, but are commonly left whitiſh or browniſh, the natural colour of the gut.

They

Cat-harpings || Catacomb.

They are alſo uſed by watch-makers, cutlers, turners, and other artificers. Great quantities are imported into England, and other northern countries, from Lyons and Italy.

Cat-Harpings, a purchaſe of ropes employed to brace in the ſhrowds of the lower maſts behind their yards, for the double purpoſe of making the ſhrowds more tight, and of affording room to draw in the yards more obliquely, to *trim* the ſails for a ſide-wind, when they are ſaid to be cloſe hauled.

Cat-Heads, two ſtrong ſhort beams of timber, which project almoſt horizontally over the ſhip's bows on each ſide of the bow-ſprit; being like two radii which extend from a centre taken in the direction of the bow-ſprit. That part of the cat-head which reſts upon the forecaſtle, is ſecurely holted to the beams: the other part projects like a crane as above deſcribed, and carries in its extremity two or three ſmall wheels or *ſheaves* of braſs or ſtrong wood, about which a rope called the *cat-fall* paſſes, and communicates with the cat-block, which alſo contains three ſheaves. The machine formed by this combination of pullies is called the *Cat*, which ſerves to pull the anchor up to the cat-head, without tearing the ſhip's ſides with its flukes. The cat-head alſo ſerves to ſuſpend the anchor clear of the bow, when it is neceſſary to let it go: it is ſupported by a ſort of knee, which is generally ornamented with ſculpture. See Plate CXXVIII.

The cat-block is filled with a large and ſtrong hood, which catches the ring of the anchor when it is to be drawn up.

Cat-Mint, See MENTHA.

Cat-Salt, a name given by our ſalt-workers to a very beautifully granulated kind of common ſalt. It is formed out of the bittern, or leach-brine, which runs from the ſalt when taken out of the pan. When they draw out the common ſalt from the boiling pans, they put it into long wooden troughs, with holes bored at the bottom for the brine to drain out; under theſe troughs are placed veſſels to receive this brine, and acroſs them ſmall ſticks to which the cat-ſalt affixes itſelf in very large and beautiful cryſtals. This ſalt contains ſome portion of the bitter purging ſalt, is very ſharp and pungent, and is white when powdered, though pellucid in the maſs. It is uſed by ſome for the table, but the greateſt part of what is made of it is uſed by the makers of hard-ſoap.

Cat-Silver. See MICA.

CATACAUSTIC CURVES, in the higher geometry, that ſpecies of cauſtic curves which are formed by reflection. See FLUXIONS.

CATACHRESIS, in rhetoric, a trope which borrows the name of one thing to expreſs another. Thus Milton, deſcribing Raphael's deſcent from the empyreal heaven to paradiſe, ſays,

"Down thither prone in flight,
"He ſpeeds, and through the vaſt etherial ſky
"Sails between worlds and worlds."

CATACOMB, a grotto, or ſubterraneous place for the burial of the dead.

Some derive the word *catacomb* from the place where ſhips are laid up, which the modern Latins and Greeks call *cumbæ*. Others ſay, that *cata* was uſed for *ad*, and *catacumbas* for *adtumbas*: accordingly, Dadin ſays, they anciently wrote *catatumbas*. Others fetch the word from the Greek κατα, and κυπος, a hollow, cavity, or the like. Catacomb.

Anciently the word *catacomb* was only underſtood of the tombs of St Peter and St Paul; and M. Chaſtelain obſerves, that, among the more knowing of the people of Rome, the word *catacomb* is never applied to the ſubterraneous burying-places hereafter mentioned, but only to a chapel in St Sebaſtian, one of the ſeven ſtational churches; where the ancient Roman kalendars ſay the body of St Peter was depoſited, under the conſulate of Tuſcus and Baſſus, in 258.

CATACOMAS of Italy; a vaſt aſſemblage of ſubterraneous ſepulchres about Rome, chiefly at about three miles from that city in the Via Appia; ſuppoſed to be the ſepulchres of the martyrs; and which are viſited accordingly out of devotion, and relics thence taken and diſperſed throughout the catholic countries, after having been firſt baptized by the pope under the name of ſome ſaint. Theſe *catacombs* are ſaid by many to be caves or cells wherein the primitive Chriſtians hid and aſſembled themſelves together, and where they interred ſuch among them as were martyred. Each *catacomb* is three feet broad, and eight or ten high; running in form of an alley or gallery, and communicating with others: in many places they extend within a league of Rome. There is no maſonry or vaulting therein, but each ſupports itſelf: the two ſides, which we may look on as the *parietes* or walls, were the places where the dead were depoſited; which were laid lengthwiſe, three or four rows over one another, in the ſame *catacomb*, parallel to the alley. They were commonly cloſed with large thick tyles, and ſometimes pieces of marble, cemented in a manner inimitable by the moderns. Sometimes, though very rarely, the name of the deceaſed is found on the tyle: frequently a palm is ſeen, painted or engraven, or the cipher Xp, which is commonly read *pro Chriſto*. The opinion held by many Proteſtant authors is, that the *catacombs* are heathen ſepulchres, and the ſame with the puticuli mentioned by Feſtus Pompeius; maintaining, that whereas it was the practice of the ancient Romans to burn their dead, the cuſtom was, to avoid expence, to throw the bodies of their ſlaves to rot in holes of the ground; and that the Roman Chriſtians, obſerving, at length, the great veneration paid to relics, reſolved to have a ſtock of their own: entering therefore the *catacombs*, they added what ciphers and inſcriptions they pleaſed; and then ſhut them up again, to be opened on a favourable occaſion. Thoſe in the ſecret, add they, dying or removing, the contrivance was forgot, till chance opened them at laſt. But this opinion has even leſs of probability than the former. Mr Monro, in the *Philoſophical Tranſactions*, ſuppoſes the *catacombs* to have been originally the common ſepulchres of the firſt Romans, and dug in conſequence of theſe two opinions, *viz.* That ſhades hate the light; and that they love to hover about the places where the bodies are laid.

Though the catacombs of Rome have made the greateſt noiſe of any in the world, there are ſuch belonging to many other cities. Thoſe of Naples, according to biſhop Burnet, are much more noble and ſpacious than the catacombs of Rome. Catacombs

Catacombs have alſo been diſcovered at Syracuſe, and Catanea in Sicily, and in the iſland of Malta. The Roman catacombs take particular names from the churches in their neighbourhood, and ſeem to divide the circumference of the city without the walls between them, extending their galleries every where under, and a vaſt way from it; ſo that all the ground under Rome, and for many miles about it, ſome ſay 20, is hollow. The largeſt, and thoſe commonly ſhown to ſtrangers, are the catacombs of San Sebaſtiano, thoſe of Saint Agneſe, and the others in the fields a little off Saint Agneſe. Women are only allowed to go into the catacombs in the church-yard of the Vatican on Whitſun-Monday, under pain of excommunication. There are men kept conſtantly at work in the *catacombs*. As ſoon as theſe labourers diſcover a grave with any of the ſuppoſed marks of a ſaint upon it, intimation is given to the cardinal Comerliogo, who immediately ſends men of reputation to the place, where finding the palm, the monogram, the colonred glaſs, &c. the remains of the body are taken up with great reſpect, and tranſlated to Rome. After the labourers have examined a gallery, they ſtop up the entry that leads to it; ſo that moſt of them remain thus cloſed up; only a few being left open to keep up the trade of ſhowing them to ſtrangers. This they ſay is done to prevent people from loſing themſelves in theſe ſubterraneous labyrinths, which indeed has often happened; but more probably to deprive the public of the means of knowing whither and how far the catacombs are carried.

The method of preſerving the dead in catacombs ſeems to have been common to a number of the ancient nations. The catacombs of Egypt are ſtill extant about nine leagues from the city of Grand Cairo, and two miles from the city of Zaccara. They extend from thence to the pyramids of Pharaoh, which are about eight miles diſtant. They lie in a field covered with a fine running ſand, of a yellowiſh colour. The country is dry and hilly; the entrance of the tomb is choaked up with ſand; there are many open, but more that are ſtill concealed.

The bodies found in catacombs, eſpecially thoſe of Egypt, are called *mummies*; and as their fleſh was formerly reckoned an efficacious medicine, they were much ſought after. In this work the labourers were often obliged to clear away the ſand for weeks together, without finding what they wanted. Upon coming to a little ſquare opening of about 18 feet in depth, they deſcend into it by holes for the feet, placed at proper intervals; and there they are ſure of finding a mummy. Theſe caves, or *wells* as they call them there, are hollowed out of a white free-ſtone, which is found in all this country a few feet below the covering of ſand. When one gets to the bottom of theſe, which are ſometimes 40 feet below the ſurface, there are ſeveral ſquare openings on each ſide into paſſages of 10 or 15 feet wide; and theſe lead to chambers of 15 or 20 feet ſquare. Theſe are all hewn out in the rock; and in each of the catacombs are to be found ſeveral of theſe apartments communicating with one another. They extend a great way under ground, ſo as to be under the city of Memphis, and in a manner to undermine its environs. In ſome of the chambers the walls are adorned with figures and hieroglyphics; in others the mummies are found in tombs, round the apartment hollowed out in the rock. Catacomb.

The Egyptians ſeem to have excelled in the art of embalming and preſerving their dead bodies; as the mummies found in the Egyptian catacombs are in a better ſtate than the bodies found either in the Italian catacombs or thoſe of any other part of the world. See EMBALMING and MUMMY. Catalepſis.

Laying up the bodies in caves, is certainly the original way of diſpoſing of the dead; and appears to have been propagated by the Phœnicians throughout the countries to which they ſent colonies: the interring as we now do in the open air or in temples was firſt introduced by the Chriſtians. When an ancient hero died or was killed in a foreign expedition, as his body was liable to corruption, and for that reaſon unfit to be tranſported entire, they fell on the expedient of burning, in order to bring home the aſhes, to oblige the *manes* to follow; that ſo his country might not be deſtitute of the benefit of his tutelage. It was thus burning ſeems to have had its original; and by degrees it became common to all who could bear the expences of it, and took place of the ancient burying: thus *catacombs* became diſuſed among the Romans, after they had borrowed the manner of burning from the Greeks, and then none but ſlaves were laid in the ground. See BURIAL, &c.

CATALAUNI, called alſo *Durocatalauni*, a town of Gallia Belgica: *Catalauni*, the people. A name rather of the lower age than of claſſical antiquity. Now *Chalons ſur Marne*, in Champaign. E. Long. 4. 35. N. Lat. 48. 55.

CATADROMUS (from κατὰ and δρόμος, *I run*), in antiquity, a ſtretched ſloping rope in the theatres, down which the *funambuli* walked to ſhow their ſkill.

Some have taken the word to ſignify the hippodrome or decurſorium wherein the Roman knights uſed to exerciſe themſelves in running and fighting on horſeback. But the moſt natural meaning is that of a rope faſtened at one end to the top of the theatre, and at the other to the bottom, to walk or run down, which was the higheſt glory of the ancient *ſchœnobates* or *funambuli*. Elephants were alſo taught to run down the *catadromus*. Suetonius ſpeaks of the exploit of a Roman knight, who paſſed down the *catadromus* mounted on an elephant's back.

CATAGOGION, a heathen feſtival at Epheſus, celebrated on the 22d of January, in which the devotees run about the ſtreets, dreſſed in divers antic and unſeemly manners, with huge cudgels in their hands, and carrying with them the images of their gods; in which guiſe they raviſhed the women they met with, abuſed and often killed the men, and committed many other diſorders, to which the religion of the day gave a ſanction.

CATAGRAPHA, in antiquity, denote oblique figures or views of mens faces; anſwering to what the moderns call *profiles*.

Catagrapha are ſaid to be the invention of Simon Cleonæus, who firſt taught painters to vary the looks of their figures, and ſometimes direct them upwards, ſometimes downwards, and ſometimes ſidewards or backwards.

CATALEPSIS, or CATALEPSY, in medicine, a kind

Catalogue. kind of apoplexy or a drowſy diſeaſe wherein the patient is taken ſpeechleſs, ſenſeleſs, and fixed in the ſame poſture wherein the diſeaſe firſt ſeized him; his eyes open, without ſeeing or underſtanding. See MEDICINE-*Index*.

CATALOGUE, a liſt or enumeration of the names of ſeveral books, men, or other things, diſpoſed according to a certain order.

Catalogues of books are digeſted in different manners, ſome according to the order of the times when the books were printed, as that of Mattaire; others according to their form and ſize, as the common booksellers-catalogues; others according to the alphabetical order of the authors names, as Hyde's catalogue of the Bodleian library; others according to the alphabetical order of matters or ſubjects, which are called *real* or *claſſical catalogues*, as thoſe of Lipenius and Draudius; laſtly, others are digeſted in a mixed method, partaking of ſeveral of the former, as de Seine's catalogue of cardinal Sluſius's library, which is firſt divided according to the ſubjects or ſciences, and afterwards the books in each are recited alphabetically.

The moſt applauded of all catalogues is that of Thuanus's library, in which are united the advantages of all the reſt. It was firſt drawn up by the two Puteani in the alphabetical order, then digeſted according to the ſciences and ſubjects by Iſmn. Bullialdus, and publiſhed by F. Queſnel at Paris in 1679; and reprinted, though incorrectly, at Hamburg, in 1704. The books are here ranged with juſtneſs under their ſeveral ſciences and ſubjects, regard being ſtill had to the nation, ſect, age, &c. of every writer. Add, that only the beſt and choiceſt books in every ſubject are found here, and the moſt valuable editions. Yet the catalogue of M. le Telliers archbiſhop of Rheim's library, made by M. Clement, is not inferior to any publiſhed in our age, either on account of the number and choice of the books, or the method of its diſpoſition. One advantage peculiar to this catalogue is, the multitude of anonymous and pſeudonymous authors detected in it, ſcarce to be met with elſewhere. Some even prefer it to Thuanus's catalogue, as containing a greater variety of claſſes and books on particular ſubjects.

The conditions required in a catalogue are, that it indicate at the ſame time the order of the authors and of the matters, the form of the book, the number of volumes, the chronological order of the editions, the language it is written in, and its place in the library; ſo as that all theſe circumſtances may appear at once in the ſhorteſt, cleareſt, and exacteſt manner poſſible. In this view, all the catalogues yet made will be found to be defective.

An anonymous French writer has laid down a new plan of a catalogue, which ſhall unite all the advantages, and avoid all the inconveniences of the reſt.

The Jeſuits of Antwerp has given us a catalogue of the popes; which makes what they call their *Propyleum*.

Catalogue of the Stars, is a liſt of the fixed ſtars, diſpoſed in their ſeveral conſtellations; with the longitudes, latitudes, &c. of each.

The firſt who undertook to reduce the fixed ſtars into a catalogue was Hipparchus Rhodius, about 120 years before Chriſt; in which he made uſe of the obſervations of Timocharis and Ariſtyllus for about 180 years before him. Ptolemy retained Hipparchus's catalogue, containing 1026 fixed ſtars; though he himſelf made abundance of obſervations, with a view to a new catalogue, A. D. 140. About the year of Chriſt 880, Albategni, a Syrian, brought down the ſame to his time. Anno 1437, Ulugh Beigh, king of Parthia and India, made a new catalogue of 1022 fixed ſtars, ſince tranſlated out of Perſian into Latin by Dr Hyde. The third who made a catalogue from his own obſervations was Tycho Brahe, who determined the places of 777 ſtars for the year 1600, which Kepler from other obſervations of Tycho afterwards increaſed to the number of 1000 in the Rudolphine tables; adding thoſe of Ptolemy omitted by Tycho, and of other authors, ſo that his catalogue amounts to above 1160. At the ſame time, William landgrave of Heſſe, with his mathematicians Chriſtopher Rothmannus and Juſtus Byrgius, determined the places of 400 fixed ſtars by his own obſervations, with their places rectified for the year 1593; which Hevelius prefers to thoſe of Tycho's. Ricciolus, in his *Aſtronomia Reformata*, determined the places of 101 ſtars for the year 1700, from his own obſervations: for the reſt he followed Tycho's catalogue; altering it where he thought fit. Anno 1667, Dr Halley, in the iſland of St Helena, obſerved 350 ſouthern ſtars not viſible in our horizon. The ſame labour was repeated by F. Noel in 1710, who publiſhed a new catalogue of the ſame ſtars conſtructed for the year 1687. Catalogue, Catalonia.

Bayer, in his *Uranometria*, publiſhed a catalogue of 1160 ſtars, compiled chiefly from Ptolemy and Tycho, in which every ſtar is marked with ſome letter of the Greek alphabet; the biggeſt ſtar in any conſtellation being denoted by the firſt letter, the next by the ſecond, &c. and if the number exceeds the Greek alphabet, the remaining ſtars are marked by letters of the Roman alphabet, which letters are preſerved by Flamſtead, and by Senex on his globes. The celebrated Hevelius compoſed a catalogue of 1888 ſtars, 1553 of which were obſerved by himſelf; and their places were computed for the year 1660.

The laſt and greateſt is the Britannic catalogue, compiled from the obſervations of the accurate Mr Flamſtead; who for a long ſeries of years devoted himſelf wholly thereto. As there was nothing wanting either in the obſerver or apparatus, we may look on this as a perfect work ſo far as it goes. It is to be regretted the impreſſion had not paſſed through his own hands: that now extant, was publiſhed by authority, but without the author's conſent: it contains 2734 ſtars. There was another publiſhed in 1725, purſuant to his teſtament; containing no leſs than 3000 ſtars, with their places rectified for the year 1689: to which is added Mr Sharp's catalogue of the ſouthern ſtars not viſible in our hemiſphere, adapted to the year 1726.

CATALONIA, a province of Spain, bounded on the north by the Pyrenean mountains, which divide it from France; by the kingdom of Arragon and Valencia on the weſt; and by the Mediterranean ſea on the ſouth and eaſt. It is 155 miles in length, and 100 in breadth. It is watered by a great number of rivers; the principal of which are the Lobregat, the Ter, and the

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the Segra. The air is temperate and healthy; but the land is mountainous, exeept in a few places. It produces, however, corn, wine, oil, pulſe, flax, and hemp, ſufficient for the inhabitants. The mountains are covered with large foreſts of tall trees, ſuch as the oak, the ever-green oak, the beech, the pine, the fir, the cheſnut, and many others; with cork-trees, ſhrubs, and medicinal plants. There are ſeveral quarries of marble of all colours, cryſtal, alabaſter, amethyſts, and lapis lazuli. Gold duſt has been found among the ſands of one or two of the rivers; and there are mines of tin, iron, lead, alum, vitriol, and ſalt. They likewiſe fiſh for coral on the eaſtern coaſt. The inhabitants are hardy, courageous, active, vigorous, and good ſoldiers, but apt to be diſcontented. The miquelets are a ſort of ſoldiers which guard the paſſes over the mountains, and ought to protect travellers; but if they are not paid to their minds, they ſeldom fail to pay themſelves. The river Lobregat divides Catalonia into two parts, the eaſt and weſt, according to their ſituation. This province comprehends 17 vigueries or territories; two of which are in Rouſſillon, and belong to the French. The reſt are ſubject to the Spaniards. The principal towns are Barcelona the capital, Tarragona, Tortoſa, Lerida, Solſonia, Cardona Vich, Girona, Seu d'Urgel, Pui Cerda, and Cervera. Catalonia was the laſt province in Spain which ſubmitted to Philip in the ſucceſſion-war.

CATAMENIA, in medicine. See MENSES.

CATAMITE, a boy kept for ſodomitical practices.

CATANA, or CATINA (anc. geog.), a town of Sicily, ſituated oppoſite to Ætna, to the ſouth-eaſt; one of the five Roman colonies: anciently built by the people of Naxus ſeven years after the building of Syracuſe, 728 years before Chriſt. It was the country of Charondas, the famous lawgiver. The town is ſtill called *Catanea*. See *CATANEA*.

CATANANCHE, CANDIA LIONS-FOOT: A genus of the polygamia æqualis order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ*. The receptacle is paleaceous; the calyx imbricated; the pappus furniſhed with awns by a caliculus of five ſtiff hairs. There are three ſpecies, of which the cerulea is the moſt remarkable. This ſends out many long, narrow, hairy leaves, which are jagged on their edges like thoſe of the buckſhorn plantain, but broader; the jags are deeper, and at greater diſtances: theſe lie flat on the ground, turning their points upwards. Between the leaves come out the flower ſtalks, which are in number proportionable to the ſize of the plants; for, from an old thriving root, there are frequently eight or ten, while young plants do not ſend out above two or three. Theſe ſtalks riſe near two feet high, dividing into many ſmall branches upward, garniſhed with leaves like thoſe below, but ſmaller, and without jags on their edges; each of theſe ſmaller branches are terminated by ſingle heads of flowers, of a fine blue colour. This is a perennial plant, and may be propagated by ſeeds or ſlips. The ſeeds may be ſown in the ſpring on a bed of common earth; and in the autumn following the plants may be removed to the places where they are to remain. The ſeeds ripen in Auguſt. This plant is a pretty ornament in gardens, and is eaſily kept within bounds.

Catanea.

CATANEA, or CATANIA, a city of Sicily, ſeated on a gulph of the ſame name, near the foot of Mount Ætna or Gibel. It was founded by the Chalcidians ſoon after the ſettlement of Syracuſe, and enjoyed great tranquillity till Hiero I. expelled the whole body of citizens; and after replenishing the town with a new ſtock of inhabitants, gave it the name of *Ætna*: immediately after his deceaſe, it regained its ancient name, and its citizens returned to their abodes. Catania fell into the hands of the Romans, among their earlieſt acquiſitions in Sicily, and became the reſidence of a prætor. To make it worthy of ſuch an honour, it was adorned with ſumptuous buildings of all kinds, and every convenience was procured to ſupply the natural and artificial wants of life. It was deſtroyed by Pompey's ſon, but reſtored with ſuperior magnificence by Auguſtus. The reign of Decius is famous in the hiſtory of this city for the martyrdom of its patroneſs St Agatha. On every emergency her interceſſion is implored. She is piouſly believed to have preſerved Catania from being overwhelmed by torrents of lava, or ſhaken to pieces by earthquakes; yet its ancient edifices are covered by repeated ſtreams of volcanic matter; and almoſt every houſe, even her own church, has been thrown to the ground. In the reign of William the Good, 20,000 Catanians, with their paſtor at their head, were deſtroyed before the ſacred veil could be properly placed to check the flames. In the laſt century the eruptions and earthquakes raged with redoubled violence, and Catania was twice demoliſhed. See ÆTNA.

The preſent prince of Biſcari has been at infinite pains, and ſpent a large ſum of money, in working down to the ancient town, which on account of the numerous torrents of lava that have flowed out of Mount Ætna for theſe laſt thouſand years, is now to be ſought for in dark caverns many feet below the preſent ſurface of the earth. Mr Swinburne informs us that he deſcended into baths, ſepulchres, an amphitheatre, and a theatre, all very much injured by the various cataſtrophes that have befallen them. They were erected upon old beds of lava, and even built with ſquare pieces of the ſame ſubſtance, which in no inſtance appears to have been fuſed by the contact of new lavas: The ſcharra or ſtones of cold lava, have conſtantly proved as ſtrong a barrier againſt the flowing torrent of fire as any other ſtone could have been, though ſome authors were of opinion that the hot matter would melt the old maſs and incorporate with it.

This city has been frequently defended from the burning ſtreams by the ſolid maſs of its own ramparts, and by the air compreſſed between them and the lava; as appears by the torrent having ſtopt within a ſmall diſtance of the walls, and taken another direction. But when the walls were broken or low, the lava collected itſelf till it roſe to a great height, and then poured over in a curve. A ſimilar inſtance is ſeen at the Torre del Greco near Naples, where the ſtream of liquid fire from Veſuvius divided itſelf into two branches, and left a church untouched in the middle. There is a well at the foot of the old walls of Catania, where the lava, after running along the parapet, and then falling

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Catanea ‖ Cataphracta.

falling forwards, has produced a very complete lofty arch over the ſpring.

The church here is a noble fabric. It is accounted the largeſt in Sicily, though neither a porch nor cupola has been erected, from a doubt of the ſolidity of the foundations, which are no other than the bed of lava that ran out of Ætna in 1669, and is ſuppoſed to be full of cavities. The organ is much eſteemed by connoiſſeurs in muſical inſtruments.

Catania, according to Mr Swinburne's account, is reviving with great ſplendor. "It has already (he ſays) much more the features of a metropolis and royal reſidence than Palermo; the principal ſtreets are wide, ſtraight, and well paved with lava. An obeliſk of red granite, placed on the back of an antique elephant of touchſtone ſtands in the centre of the great ſquare, which is formed by the town-hall, ſemiaary, and cathedral. The cathedral erected by the abbot Angerius in the year 1094, was endowed by earl Ruger with the territories of Catania and Ætna, for the ſmall acknowledgment of a glaſs of wine and a loaf of bread offered once a-year. It has ſuffered ſo much by earthquakes, that little of the original ſtructure remains, and the modern parts have hardly any thing except their materials to recommend them. The other religious edifices of the city are profuſely ornamented, but in a bad taſte. The ſpirit of building ſeems to have ſeized upon this people, and the prince of Biſcari's example adds freſh vigour. It were natural to ſuppoſe men would be backward in erecting new habitations, eſpecially with any degree of luxury, on ground ſo often ſhaken to its centre, and ſo often hurled under the aſhes of a volcano; but ſuch is their attachment to their native ſoil, and their contempt of dangers they are habituated to, that they rebuild their houſes on the warm cinders of Veſuvius, the quaking plains of Calabria, and the black mountains of Sciarra at Catania; it is however ſurpriſing to ſee ſuch embelliſhments laviſhed in ſo dangerous a ſituation. There is a great deal of activity in the diſpoſition of this people: they know by tradition that their anceſtors carried on a flouriſhing commerce; and that, before the fiery river filled it up, they had a ſpacious convenient harbour, where they now have ſcarce a creek for a ſelucca: they therefore wiſh to reſtore thoſe advantages to Catania, and have often applied to government for aſſiſtance towards forming a mole and port, an undertaking their ſtrength alone is unequal to; but whether the refuſal originates in the deficiencies of the public treaſury or the jealouſy of other cities, all their projects have ended in fruitleſs applications. The number of inhabitants dwelling in Catania amounts to 30,000; the Catanians make it double: A conſiderable portion of this number appertains to the univerſity, the only one in the iſland, and the nurſery of all the lawyers." E. Long. 15. 19. N. Lat. 37. 30.

CATANZARO, a city in the kingdom of Naples, the capital of Calabria Ulterior, with a biſhop's ſee. It is the uſual reſidence of the governor of the province, and is ſeated on a mountain, in E. Long. 18. 20. N. Lat. 38. 58.

CATAPHONICS, the ſcience which conſiders the properties of reflected ſounds. See Acoustics.

CATAPHORA, in medicine, the ſame as Coma.

CATAPHRACTA (from κατὰ, and φράσσω, *I fortify* or *arm*), in the ancient military art, a piece of heavy defenſive armour, formed of cloth or leather, fortified with iron ſcales or links, wherewith ſometimes only the breaſt, ſometimes the whole body, and ſometimes the horſe too, was covered. It was in uſe among the Sarmatians, Perſians, and other Barbarians. The Romans alſo adopted it early for their foot; and, according to Vegetius, kept to it till the time of Gratian, when the military diſcipline growing remiſs, and field exerciſes and labour diſcontinued, the Roman foot thought the cataphracta as well as the helmet too great a load to bear, and therefore threw both by, chooſing rather to march againſt the enemy bare-breaſted; by which, in the war with the Goths, multitudes were deſtroyed. Cataphractum ‖ Cataplaſma.

Cataphractæ Naves, ſhips armed and covered in fight, ſo that they could not be eaſily damaged by the enemy. They were covered over with boards or planks, on which the ſoldiers were placed to defend them; the rowers ſitting underneath, thus ſcreened from the enemy's weapons.

CATAPHRACTUS, denotes a thing defended or covered on all ſides with armour.

Cataphractus, or *Cataphractarius*, more particularly denotes a horſeman, or even horſe, armed with a cataphracta. The *cataphractæ equites* were a ſort of cuiraſſiers, not only fortified with armour themſelves, but having their horſes guarded with ſolid plates of braſs or other metals, uſually lined with ſkins and wrought into plumes or other forms. Their uſe was to bear down all before them, to break in upon the enemies ranks, and ſpread terror and havock wherever they came, as being themſelves invulnerable and ſecure from danger. But their diſadvantage was their unwieldineſs, by which, if once unhorſed or on the ground, they were unable to riſe, and thus fell a prey to the enemy.

CATAPHRYGIANS, a ſect in the ſecond century, ſo called as being of the country of Phrygia. They were orthodox in every thing, ſetting aſide this, that they took Montanus for a prophet, and Priſcilla and Maximilla for true propheteſſes, to be conſulted in every thing relating to religion; as ſuppoſing the Holy ſpirit had abandoned the church. See Montanist.

CATAPLASMA, a poultice; from κατὰπλάσσω, *illino*, to ſpread like a plaſter. Cataplaſms take their name ſometimes from the part to which they are applied, or effects they produce; ſo are called *anacollema*, *frontale*, *epicarpium*, *epiſpaſticum*, *veſicatorium*; and when muſtard is an ingredient, they are called *ſinapiſms*.

Theſe kind of applications are ſofter and more eaſy than plaſters or ointments. They are formed of ſome vegetable ſubſtances, and applied of ſuch a conſiſtence as neither to adhere nor run: they are alſo more uſeful when the intention is effected by the perpetuity of the heat or cold which they contain, for they retain them longer than any other kind of compoſition.

When deſigned to *relax*, or to promote ſuppuration, they ſhould be applied warm. Their warmth, moiſture, and the obſtruction they give to perſpiration, is the method of their anſwering that end. The proper heat, when applied warm, is no more than to promote a kindly pleaſant ſenſation; for great heat prevents the deſign for which they are uſed. They ſhould be renewed as often as they cool. For relaxing and

Catapulta. and ſuppurating, none excel the white-bread poultice, made with the crumb of an old loaf, a ſufficient quantity of milk to boil the bread in until it is ſoft, and a little oil; which laſt ingredient, beſides preventing the poultice from drying and ſticking to the ſkin, alſo retains the heat longer than the bread and milk alone would do. To preſerve the heat longer, the poultice, when applied, may be covered with a ſtrong ox's bladder.

When deſigned to *repel*, they ſhould be applied cold, and ought to be renewed as oft as they become warm. A proper compoſition for this end is a mixture of oatmeal and vinegar.

CATAPULTA, in antiquity, a military engine contrived for the throwing of arrows, darts, and ſtones upon the enemy.—Some of theſe engines were of ſuch force that they would throw ſtones of an hundred weight. Joſephus takes notice of the ſurpriſing effects of theſe engines, and ſays, that the ſtones thrown out of them beat down the battlements, knocked off the angles of the towers, and would level a whole file of men from one end to the other, was the phalanx ever ſo deep. This was called the

Battering CATAPULTA, and is repreſented on Plate CXXVII. This catapulta is ſuppoſed to carry a ſtone, *&c.* of an hundred weight, and therefore a deſcription of it will be ſufficient to explain the doctrine of all the reſt; for ſuch as threw ſtones of 500 and upwards were conſtructed on the ſame principles.

The baſe is compoſed of two large beams a, 3. The length of thoſe beams is fifteen diameters of the bore of the capitals 9. At the two extremities of each beam, two double mortiſes are cut to receive the eight tenons of two croſs beams, each of them four of the diameters in length. In the centre of each of the beams of the baſe, and near two thirds of their length, a hole, perfectly round, and 16 inches in diameter, ſhould be bored: theſe holes muſt be exactly oppoſite to each other, and ſhould increaſe gradually to the inſide of the beams, ſo that each of them, being 16 inches on the outſide towards the capitals 9, ſhould be 17½ at the opening on the inſide, and the edges carefully rounded off. The capitals 9 are, in a manner, the ſoul of the machine, and ſerve to twiſt and ſtrain the cordage, which forms its principle or power of motion.

The capitals are either of caſt braſs or iron; each conſiſting of a wheel with teeth, C 10, of a½ inches thick. The hollow or bore of theſe wheels ſhould be 11½ inches in diameter, perfectly round, and the edges ſmoothed down. As the friction would be too great, if the capitals rubbed againſt the beams, by the extreme ſtraining of the cordage, which draws them towards theſe beams, that inconvenience is remedied by the means of eight friction-wheels, or cylinders of braſs, about the 13th of an inch in diameter, and an inch and one ſixth in length, placed circularly, and turning upon axes, as repreſented at D 13, B 12. One of theſe friction-wheels at large with its ſcrew, by which it is faſtened into the beam, is repreſented at A.

Upon this number of cylindrical wheels the capitals 9 muſt be placed in the beams, 2, 3, ſo that the cylinders do not extend to the teeth of the wheels, which muſt receive a ſtrong pinion 14. By the means of this pinion the wheel of the capital is made to turn for ſtraining the cordage with the key 15. The capital wheel has a ſtrong catch 16, and another of the ſame kind may be added to prevent any thing from giving way through the extreme and violent force of the ſtrained cordage. Catapulta.

The capital-piece of the machine is a nut or croſs-pin of iron, 17, ſeen at C, and hammered cold into its form. It divides the bore of the capitals exactly in two equal parts, and fixed in groves about an inch deep. This piece, or nut, ought to be about two inches and one-third thick at the top 18, as repreſented in the ſection at B; and rounded off and poliſhed as much as poſſible, that the cords fulded over it may not be hurt or cut by the roughneſs or edges of the iron. Its height ought to be eight inches, decreaſing gradually in thickneſs to the bottom, where it ought to be only one inch. It muſt be very exactly inſerted in the capitals.

After placing the two capitals in the holes of the two beams in a right line with each other, and fixing the two croſs diametrical nuts or pieces over which the cordage is to wind, one end of the cord is reeved through a hole in one of the capitals in the baſe, and made faſt to a nail within-ſide of the beam. The other ſide of the cord is then carried through the hole in the oppoſite beam and capital, and ſo wound over the croſs pieces of iron in the centre of the two capitals, till they are full, the cordage forming a large ſkain. The tenſion or ſtraining of the cordage ought to be exactly equal, that is, the ſeveral foldings of the cord over the capital-pieces ſhould be equally ſtrained, and ſo near each other as not to leave the leaſt ſpace between them. As ſoon as the firſt folding or ſkain of cord has filled up one whole ſpace or breadth of the capital pieces, another muſt be carried over it; and ſo on, always equally ſtraining the end till no more will paſs through the capitals, and the ſkain of cordage entirely fills them, obſerving to rub it from time to time with ſoap.

At three or four inches behind the cordage, thus wound over the capital pieces, two very ſtrong upright beams a t are raiſed: theſe are poſts of oak 14 inches thick, croſſed over at top by another of the ſame ſolidity. The height of the upright beams is 7½ diameters; each ſupported behind with very ſtrong props 25, fixed at bottom in the extremities of the baſe 2, 3. The croſs beam 24 is ſupported in the ſame manner by a prop in the centre.

The tree, arm, or ſtylus 22, ſhould be of ſound aſh. Its length is from 15 to 16 diameters of the bore of the capitals. The end at the bottom, or that fixed in the middle of the ſkain, is 10 inches thick, and 14 broad. To ſtrengthen the arm or tree, it ſhould be wrapped round with a cloth dipped in ſtrong glue like the tree of a ſaddle, and bound very hard with waxed thread of the ſixth of an inch in diameter from the large end at bottom, almoſt to the top, as repreſented in the figure.

At the top of the arm, juſt under the iron-hand or receiver 27, a ſtrong cord is faſtened, with two loops twiſted one within another, for the greater ſtrength. Into theſe two loops the hook of a braſs pulley 28 is put. The cord 29 is then reeved through the pulley, and faſtened to the roll 30. The cock or trigger 31, which

Catapulta || Catarrh

which ſerves as a ſtay, is then brought to it, and made faſt by its hook to the extremity of the band 27, in which the body to be diſcharged is placed. The pulley at the neck of the arm is then unhooked; and when the trigger is to let it off, a ſtroke muſt be given upon it with an iron-bar or crow of about an inch in diameter; on which the arm flies up with a force almoſt equal to that of a modern mortar. The cuſhion or ſtomacher 23, placed exactly in the middle of the croſs beam 24, ſhould be covered with tanned ox-hide, and ſtuffed with hair, the arm ſtriking againſt it with inconceivable force. It is to be obſerved, that the tree or arm 22 deſcribes an angle of 90 degrees, beginning at the cock, and ending at the ſtomacher or cuſhion.

Catapulta for Arrows, Spears, or Darts. Some of the ſpears, &c. thrown by theſe engines, are ſaid to have been 18 feet long, and to have been thrown with ſuch velocity as to take fire in their courſe.

Fig. 2. A B C D is the frame that holds the darts or arrows, which may be of different numbers, and placed in different directions. E F is a large and ſtrong iron ſpring, which is bent by a rope that goes over three pullies, I, K, L; and is drawn by one or ſeveral men; this rope may be faſtened to a pin at M. The rope, therefore, being ſet at liberty, the ſpring muſt ſtrike the darts with great violence, and ſend them, with ſurpriſing velocity, to a great diſtance. This inſtrument differs in ſome particulars from the deſcription we have of that of the ancients; principally in the throwing of ſeveral darts at the ſame time, one only being thrown by theirs.

CATARACT, in hydrography, a precipice in the channel of a river, cauſed by rocks, or other obſtacles, ſtopping the courſe of the ſtream, from whence the water falls with a greater noiſe and impetuoſity. The word comes from *καταῤῥασσω*, "I tumble down with violence;" compounded of *κατα*, "down," and *ῥασσω*, *dejicio*, "I throw down."—Such are the cataracts of the Nile, the Danube, Rhine, &c. In that of Niagara, the perpendicular fall of the water is 137 feet: and in that of Piſtill Rhaiadr, in North Wales, the fall of water is near 240 feet from the mountain to the lower pool.

Strabo calls that a *cataract* which we call a *caſcade*; and what we call a *cataract*, the ancients uſually called a *catadupa*. Herminius has an expreſs diſſertation, "De admirandis mundi Cataractis ſupra et ſubterraneis;" where he uſes the word in a new ſenſe; ſignifying, by cataract, any violent motion of the elements

CATARACT, in medicine and ſurgery, a diſorder of the humours of the eye, by which the pupilla, that ought to appear tranſparent and black, looks opaque, blue, grey, brown, &c. by which viſion is variouſly impeded, or totally deſtroyed. See SURGERY.

CATARO, a town of Dalmatia, and capital of the territory of the ſame name, with a ſtrong caſtle, and a biſhop's ſee. It is ſubject to Venice, and ſeated on a gulph of the ſame name. E. Long. 19. 19. N. Lat. 42. 25.

CATARACTES, in ornithology, the trivial name of a ſpecies of LARUS.

CATARRH, in medicine, a diſtillation or defluxion from the head upon the mouth and aſpera arteria, and through them upon the lungs. See (the *Index* ſubjoined to) MEDICINE.

Cataſtaſis || Catecheſis.

CATASTASIS. in poetry, the third part of the ancient drama; being that wherein the intrigue, or action, ſet forth in the epitaſis, is ſupported, carried on, and heightened, till it be ripe for the unravelling in the cataſtrophe. Scaliger defines it, the full growth of the fable, while things are at a ſtand in that confuſion to which the poet has brought them.

CATASTROPHE, in dramatic poetry, the fourth and laſt part in the ancient drama; or that immediately ſucceeding the cataſtaſis: or, according to others, the third only; the whole drama being divided into protaſis, epitaſis, and cataſtrophe; or in the terms of Ariſtotle, prologue, epilogue, and exode.

The cataſtrophe clears up every thing, and is nothing elſe but the diſcovery or winding up of the plot. It has its peculiar place: for it ought entirely to be contained, not only in the laſt act, but in the very concluſion of it; and when the plot is finiſhed, the play ſhould be ſo alſo. The cataſtrophe ought to turn upon a ſingle point, or ſtart up on a ſudden.

The great art in the cataſtrophe is, that the clearing up of all difficulties may appear wonderful, and yet eaſy, ſimple, and natural.

It is a very prepoſterous artifice of ſome writers to ſhow the cataſtrophe in the very title of the play. Mr Dryden thinks that a cataſtrophe reſulting from a mere change in the ſentiments and reſolutions of a perſon, without any other machinery, may be ſo managed as to be exceedingly beautiful.

It is a diſpute among the critics, whether the cataſtrophe ſhould always fall out favourably on the ſide of virtue or not. The reaſons on the negative ſide ſeem the ſtrongeſt. Ariſtotle prefers a ſhocking cataſtrophe to a happy one —The cataſtrophe is either ſimple or complex. The firſt is that in which there is no change in the ſtate of the principal perſons, nor any diſcovery or unravelling, the plot being only a mere paſſage out of agitation into quiet repoſe. In the ſecond, the principal perſons undergo a change of fortune, in the manner already defined.

CATCH, in the muſical ſenſe of the word, a fugue in the uniſon, wherein, to humour ſome conceit in the words, the melody is broken, and the ſenſe interrupted in one part, and caught again or ſupported by another; as in the catch in Shakeſpeare's play of the Twelfth-night, where there is a catch ſung by three perſons, in which the humour is, that each who ſings, calls and is called *knave* in turn: Or, as defined by Mr Jackſon, "a catch is a piece for three or more voices, one of which leads, and the others follow in the ſame notes. It muſt he ſo contrived, that reſts (which are made for that purpoſe) in the muſic of one line be filled up with a word or two from another line; theſe form a croſs purpoſe, or catch, from whence the name."

Catch-Fly, in botany. See LYCHNIS.

Catch-Pole, (quaſi one that *catches* by the *pole*), a term uſed, by way of reproach, for the bailiff's follower or aſſiſtant.

Catch-Word, among printers, that placed at the bottom of each page, being always the firſt word of the following page.

CATECHESIS, in a general ſenſe, denotes an inſtruction

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Catechetic || Catechumen.

ſtruction given any perſon in the firſt rudiments of an art or ſcience; but more particularly of the Chriſtian religion. In the ancient church, catechefis was an inſtruction given *viva voce*, either to children, or adult heathens, preparatory to their receiving of baptiſm. In this ſenſe, *catechefis* ſtands contradiſtinguiſhed from *myſtagogica*, which were a higher part of inſtruction given to thoſe already initiated, and containing the myſteries of faith. Thoſe who give ſuch inſtructions are called *catechiſts*; and thoſe who receive them, *catechumens*.

CATECHETIC, or CATECHETICAL, ſomething that relates to oral inſtruction in the rudiments of Chriſtianity.—Catechetic ſchools were buildings appointed for the office of the catechiſt, adjoining to the church, and called *catechumena*: ſuch was that in which Origen and many other famous men read catechetical lectures at Alexandria. See CATECHUMEN.

CATECHISM, in its primary ſenſe, an inſtruction, or inſtitution, in the principles of the Chriſtian religion, delivered *viva voce*, and ſo as to require frequent repetitions, from the diſciple or hearer, of what has been ſaid. The word is formed from κατηχέω, a compound of κατὰ and ἠχὼ, q. d. *circumſono*, alluding to the noiſe or din made in this ſort of exerciſe, or to the zeal and earneſtneſs wherewith things are to be inculcated over and over on the learners.—Anciently the candidates for baptiſm were only to be inſtructed in the ſecrets of their religion by tradition *viva voce*, without writing; as had alſo been the caſe among the Egyptian prieſts, and the Britiſh and Gauliſh druids, who only communicated the myſteries of their theology by word of mouth.

CATECHISM is more frequently uſed in modern times for an elementary book, wherein the principal articles of religion are ſummarily delivered in the way of queſtion and anſwer.

CATECHIST, κατηχιστὴς, *catecheta*, he that catechiſes, *i. e.* he that inſtructs novices in the principles of religion.

CATECHIST more particularly denotes a perſon appointed by the church to inſtruct thoſe intended for baptiſm, by word of mouth, in the fundamental articles of the Chriſtian faith.—The catechiſts of churches were miniſters uſually diſtinct from the biſhops and preſbyters, and had their auditories or *catechumena* apart. Their buſineſs was to inſtruct the catechumens, and prepare them for the reception of baptiſm. But the catechiſts did not conſtitute any diſtinct order of the clergy, but were choſen out of any other order. The biſhop himſelf ſometimes performed the office; at other times preſbyters, or even readers or deacons, were the catechiſts. Origen ſeems to have had no higher degree in the church than reader, when he was made catechiſt at Alexandria, being only 18 years of age, and conſequently incapable of the deaconſhip.

CATECHU, in the materia medica, the name of a troche conſiſting of Japan earth and gum arabic, each two ounces, and of ſugar of roſes ſixteen ounces, beat together with a little water. It is recommended as a mild reſtringent, &c.

CATECHUMEN, a candidate for baptiſm, or one who prepares himſelf for the receiving thereof.

The catechumens, in church-hiſtory, were the loweſt order of Chriſtians in the primitive church. They had ſome title to the common name of Chriſtian, being a degree above pagans and heretics, though not conſummated by baptiſm. They were admitted to the ſtate of catechumens by the impoſition of hands, and the ſign of the croſs. The children of believing parents were admitted catechumens, as ſoon as ever they were capable of inſtruction: but at what age thoſe of heathen parents might be admitted, is not ſo clear. As to the time of their continuance in this ſtate, there were no general rules fixed about it; but the practice varied according to the difference of times and places, and the readineſs and proficiency of the catechumens themſelves.

Categorical || Catenaria

There were four orders or degrees of catechumens; the firſt were thoſe inſtructed privately without the church, and kept at a diſtance for ſome time from the privilege of entering the church, to make them the more eager and deſirous of it. The next degree were the *audientes*, ſo called from their being admitted to hear ſermons, and the ſcriptures read in the church, but were not allowed to partake of the prayers. The third ſort of catechumens were the *genu-flectentes*, ſo called becauſe they received impoſition of hands kneeling. The fourth order was the *competentes & electi*, denoting the immediate candidates for baptiſm, or ſuch as were appointed to be baptized the next approaching feſtival; before which, ſtrict examination was made into their proficiency under the ſeveral ſtages of catechetical exerciſes.

After examination, they were exerciſed for twenty days together, and were obliged to faſting and confeſſion: ſome days before baptiſm they went veiled; and it was cuſtomary to touch their ears, ſaying, *Ephatha*, i. e. Be opened; as alſo to anoint their eyes with clay; both ceremonies being in imitation of our Saviour's practice, and intended to ſhadow out to the catechumens their condition both before and after their admiſſion into the Chriſtian church.

CATEGORICAL, in a general ſenſe, is applied to thoſe things ranged under a CATEGORY.

CATEGORICAL alſo imports a thing to be abſolute, and not relative; in which ſenſe it ſtands oppoſed to *hypothetical*. We ſay, a *categorical* propoſition, a *categorical* ſyllogiſm, &c.

A *categorical* anſwer denotes an expreſs and pertinent anſwer made to any queſtion or objection propoſed.

CATEGORY, in logic, a ſeries or order of all the predicates or attributes contained under any genus.

The ſchool-philoſophers diſtribute all the objects of our thoughts and ideas into certain *genera* or claſſes, not ſo much, ſay they, to learn what they do not know, as to communicate a diſtinct notion of what they do know; and theſe claſſes the Greeks called *categories*, and the Latins *predicaments*.

Ariſtotle made ten categories, viz. quantity, quality, relation, action, paſſion, time, place, ſituation, and habit, which are uſually expreſſed by the following technical diſtich:

Arbor, ſex, ſervos, ardore, refrigerat, uſtos,
Rure cras ſtabo, nec tunicatus ero.

CATEK. See BENGAL, n° 15.

CATENARIA, in the higher geometry, the name of a curve-line formed by a rope hanging freely from

Caterpillar

two points of ſuſpenſion, whether the points be horizontal or not. See FLUXIONS.

CATERPILLAR, in zoology, the name of all winged inſects when in their reptile or worm-ſtate. See EAUCA.

Method of Deſtroying CATERPILLARS *on Trees.*— Take a chafing diſh with lighted charcoal, and placing it under the branches that are loaded with caterpillars, throw ſome pinches of brimſtone upon the coals. The vapour of the ſulphur, which is mortal to theſe inſects, will not only deſtroy all that are on the tree, but prevent it from being infeſted with them afterwards. A pound of ſulphur will clear as many trees as grow on ſeveral acres. This method has been ſucceſsfully tried in France. In the *Journal Oeconomique*, the following is ſaid to be infallible againſt the caterpillars feeding on cabbage, and perhaps may be equally ſerviceable againſt thoſe that inſeſt other vegetables. Sow with hemp all the borders of the ground where you mean to plant your cabbage; and, although the neighbourhood is infeſted with caterpillars, the ſpace incloſed by the hemp will be perfectly free, not one of the vermin will approach it.

CATERPILLAR-Eaters, a name given by ſome authors to a ſpecies of worms bred in the body of the caterpillar, and which eat its fleſh: theſe are owing to a certain kind of fly that lodges her eggs in the body of this animal, and they, after their proper changes, become flies like their parents.

Mr Reaumur has given us, in his hiſtory of inſects, ſome very curious particulars in regard to theſe little worms. Every one of them, he obſerves, ſpins itſelf a very beautiful caſe of a cylindric figure, made of a very ſtrong ſort of ſilk; theſe are the caſes in which this animal ſpends its ſtate of chryſalis; and they have a mark by which they may be known from all other animal productions of this kind, which is, that they have always a broad ſtripe or band ſurrounding their middle, which is black when the reſt of the caſe is white, and white when that is black. Mr Reaumur has had the pains and patience to find out the reaſon of this ſingularity, which is this: the whole ſhell is ſpun of a ſilk produced out of the creature's body; this at firſt runs all white, and towards the end of the ſpinning turns black. The outſide of the caſe muſt neceſſarily be formed firſt, as the creature works from within: conſequently this is truly white all over, but it is tranſparent, and ſhows the laſt ſpun or black ſilk through it. It might be ſuppoſed that the whole inſide of the ſhell ſhould be black; but this is not the caſe: the whole is faſhioned before this black ſilk comes; and this is employed by the creature, not to line the whole, but to fortify certain parts only; and therefore is all applied either to the middle, or to the two ends omitting the middle; and ſo gives either a black band in the middle, or a blackneſs at both ends, leaving the white in the middle to appear. It is not unfrequent to find a ſort of ſmall caſes, lying about garden-walks, which move of themſelves; when theſe are opened, they are found to contain a ſmall living worm. This is one of the ſpecies of theſe caterpillar-eaters; which, as ſoon as it comes out of the body of that animal, ſpins itſelf a caſe for its tranſformation long before that happens, and lives in it without food till that change comes on; and it becomes a fly like that to which it owed its birth.

Caterva ‖ Cathartics.

CATERVA, in ancient military writers, a term uſed in ſpeaking of the Gauliſh or Celtiberian armies, denoting a body of 6000 armed men. The word *caterva*, or *catervarius*, is alſo frequently uſed by ancient writers to denote a party or corps of ſoldiers in diſorder or diſarray: by which it ſtands diſtinguiſhed from cohort or turma, which were in good order.

CATESBÆA, the LILY-THORN: A genus of the monogynia order, belonging to the tetrandria claſs of plants; and in the natural method ranking under the 28th order, *Lurida*. The corolla is monopetalous, funnel-ſhaped, very long above the receptacle of the fruit; the ſtamina are within its throat; the fruit a polyſpermous berry. There is only one ſpecies, viz. the ſpinoſa, which was diſcovered in the iſland of Providence by Mr Cateſby, who gathered the ſeeds, and brought them to England. It riſes to the height of ten or twelve feet, and is covered with a pale ruſſet bark; the branches come out alternately, and are garniſhed with ſmall leaves reſembling thoſe of the box-tree, coming out in cluſters all round the branches at certain diſtances; the flowers hang downward, and come out from the ſide of the branches: they are tubulous and near ſix inches long, very narrow at their baſe, but widening upwards towards the top, where it is divided into four parts which ſpread open, and are reflexed backward. They are of a dull yellow colour. This plant is propagated by ſeeds which muſt be procured from the country where it grows. The ſeeds muſt be ſown on a hot-bed, and are to be treated in the ſame manner as other tender exotics.

CATHÆRETICS, in pharmacy, medicines of a cauſtic nature, ſerving to eat off proud fleſh.

CATHARINE, *Knights of St* CATHARINE *of Mount Sinai*, an ancient military order, erected for the aſſiſtance and protection of pilgrims going to pay their devotions to the body of St Catharine, a virgin of Alexandria, diſtinguiſhed for her learning, and ſaid to have ſuffered martyrdom under Maximin. The body of the martyr having been diſcovered on mount Sinai, cauſed a great concourſe of pilgrims; and travelling being very dangerous, by reaſon of the Arabs, an order of knighthood was erected in 1063, on the model of that of the holy ſepulchre, and under the patronage of St Catharine: the knights of which obliged themſelves by oath to guard the body of the ſaint, keep the roads ſecure, obſerve the rule of St Baſil, and obey their grand maſter. Their habit was white, and on it were repreſented the inſtruments of martyrdom whereby the ſaint had ſuffered; viz. a half-wheel armed with ſpikes, and traverſed with a ſword ſtained with blood.

CATHARINE, Fraternity of St Catharine at Sienna, a ſort of religious ſociety inſtituted in that city, in honour of St Catharine, a ſaint famous for her revelations, and for her marriage with Jeſus Chriſt, whoſe wedding ring is ſtill preſerved as a valuable relick. This fraternity yearly endows a certain number of deſtitute virgins, and has the privilege of redeeming annually two criminals condemned for murder, and the ſame number of debtors, by paying their debts.

CATHARTICS, in medicine, remedies which pro-

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Catheca Catherine.

mote evacuation by ſtool. See MATERIA MEDICA.

CATHECU, in botany. See ARECA.

CATHEDRA, in a general ſenſe, a chair.—The word is more particularly uſed for a profeſſor's chair, and a preacher's pulpit.

CATHEDRA is alſo uſed for the biſhop's ſee, or throne, in a church.

CATHEDRAL, a church wherein is a biſhop's ſee or ſeat: See CHURCH, and BISHOP. The word comes from the Greek καθέδρα, "chair," of καθίζομαι, *ſedeo*, "I ſit." The denomination *cathedral* ſeems to have taken its riſe from the manner of ſitting in the ancient churches, or aſſemblies of primitive Chriſtians: in theſe, the council, i. e. the elders and prieſts, was called *Preſbyterium*; at their head was the biſhop, who held the place of chairman, *Cathedralis*, or *Cathedraticus*; and the preſbyters, who ſat on either ſide, were alſo called by the ancient fathers, *Aſſeſſores Epiſcoporum*. The epiſcopal authority did not reſide in the biſhop alone; but in all the preſbyters, whereof the biſhop was preſident. A *cathedral* therefore, originally, was different from what it is now; the Chriſtians, till the time of Conſtantine, having no liberty to build any temple: by their churches they only meant their aſſemblies; and by *cathedrals*, nothing more than conſiſtories.

CATHERINE PAAR. See PAAA.

CATHERINE I. *Empreſs of Ruſſia*, a moſt extraordinary perſonage, whoſe hiſtory deſerves to be given in detail. She was the natural daughter of a country girl; and was born at Ringen, a ſmall village upon the lake Virtcherve, near Dorpt, in Livonia. The year of her birth is uncertain; but, according to her own account, ſhe came into the world on the 5th of April, 1687. Her original name was Martha, which ſhe changed for Catherine when ſhe embraced the Greek religion. Count Roſen, a lieutenant-colonel in the Swediſh ſervice, who owned the village of Ringen, ſupported, according to the cuſtom of the country, both the mother and the child; and was, for that reaſon, ſuppoſed by many perſons to have been her father. She loſt her mother when ſhe was but three years old; and, as count Roſen died about the ſame time, ſhe was left in ſo deſtitute a ſituation, that the pariſh-clerk of the village received her into his houſe. Soon afterwards Gluck, Lutheran miniſter of Marienburgh, happening, in a journey through thoſe parts, to ſee the foundling, took her under his protection, brought her up in his family, and employed her in attending his children. In 1701, and about the 14th year of her age, ſhe eſpouſed a dragoon of the Swediſh garriſon of Marienburgh. Many different accounts are given of this tranſaction: one author of great credit affirms that the bride and bridegroom remained together eight days after their marriage; another, of no leſs authority, aſſerts, on the contrary, that on the morning of the nuptials her huſband being ſent with a detachment for Riga, the marriage was never conſummated. Thus much is certain, that the dragoon was abſent when Marienburgh ſurrendered to the Ruſſians; and Catherine, who was reſerved for a higher fortune, never ſaw him more.

General Bauer, upon the taking of Marienburgh, ſaw Catherine among the priſoners; and, being ſmitten with her youth and beauty, took her to his houſe, where ſhe ſuperintended his domeſtic affairs, and was ſuppoſed to be his miſtreſs. Soon afterwards ſhe was removed into the family of prince Menzikuf, who was no leſs ſtruck with the attractions of the fair captive. With him ſhe lived until 1704; when, in the 17th year of her age, ſhe became the miſtreſs of Peter the Great, and won ſo much upon his affections, that he eſpouſed her on the 29th of May 1711. The ceremony was ſecretly performed at Jawerof in Poland, in the preſence of General Bruce; and on the 20th of February 1712, it was publicly ſolemnized with great pomp at Peterſburgh. Catherine

Catherine, by the moſt unwearied aſſiduity and unremitted attention, by the ſoftneſs and complacency of her diſpoſition, but above all by an extraordinary liveline's and gaiety of temper, acquired a wonderful aſcendency over the mind of Peter. The latter was ſubject to occaſional horrors, which at times rendered him gloomy and ſuſpicious, and raiſed his paſſions to ſuch an height as to produce a temporary madneſs. In theſe dreadful moments Catherine was the only perſon who durſt venture to approach him; and ſuch was the kind of faſcination ſhe had acquired over his ſenſes, that her preſence had an inſtantaneous effect, and the firſt ſound of her voice compoſed his mind and calmed his agonies. From theſe circumſtances ſhe ſeemed neceſſary, not only to his comfort, but even to his very exiſtence; ſhe became his inſeparable companion on his journeys into foreign countries, and even in all his military expeditions.

The peace of Pruth, by which the Ruſſian army was reſcued from certain deſtruction, has been wholly attributed to Catherine, though ſhe was little more than an inſtrument in procuring the conſent of Peter. The latter, in his campaign of 1711 againſt the Turks, having imprudently led his troops into a diſadvantageous ſituation, took the deſperate reſolution of cutting his way through the Turkiſh army in the night. With this reſolution he retired to his tent in an agony of deſpair, and gave poſitive orders that no one ſhould be admitted under pain of death. In this important juncture the principal officers and the vice-chancellor Shaffirof aſſembled in the preſence of Catherine, and drew up certain preliminaries in order to obtain a truce from the grand vizir. In conſequence of this determination, plenipotentiaries were immediately diſpatched, without the knowledge of Peter, to the grand vizir, and a peace obtained upon more reaſonable conditions than could have been expected. With theſe conditions Catherine, notwithſtanding the orders iſſued by Peter, entered his tent, and prevailed upon him to ſign them. Catherine, by her conduct on this occaſion, acquired great popularity; and the emperor particularly ſpecifies her behaviour at Pruth as one of the reaſons which induced him to crown her publicly at Moſcow with his own hand. This ceremony was performed in 1724; and although deſigned by Peter only as a proof of his affection, was the principal cauſe of her ſubſequent elevation.

Her influence continued undiminiſhed until a ſhort time before the death of the emperor, when ſome circumſtances happened which occaſioned ſuch a coolneſs between them as would probably have ended in a total rupture, if his death had not fortunately intervened. The

original

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Catherine. original cauſe of this miſunderſtanding aroſe from the followiog diſcovery of a ſecret connection between Catherine and her firſt chamberlain, whoſe name was Mons. The emperor, who was ſuſpicious of this connection, quitted Peterſburgh under pretence of removing to a villa for a few days, but privately returned to his winter palace in the capital. From thence he occaſiooally ſent one of his confidential pages with a complimentary meſſage to the empreſs, as if he had been io the country, and with ſecret orders to obſerve her motions. From the page's information the emperor, on the third night, ſurprized Catherine in an arbour of the garden with her favourite Mons; while his ſiſter, Madame Balke, who was firſt lady of the bed-chamber to the empreſs, was, in company with a page, upoo the watch without the arbour.

Peter, whoſe violeot temper was inflamed by this diſcovery, ſtruck Catherine with his cane, as well as the page, who endeavoured to prevent him from enteriog the arbour, and then retired without uttering a ſingle word either to Mons or his ſiſter. A few days after this tranſaction theſe perſons were taken into cuſtody, and Mons was carried to the winter palace, where no one had admiſſion to him but Peter, who himſelf hrought him his proviſions. A report was at the ſame time circulated, that they were impriſoned for having received bribes, and making their influence over the empreſs ſubſervient to their own mercenary views. Mons being examined hy Peter, in the preſenee of major-general Uſchakof, and threatened with the torture, confeſſed the corruption which was laid to his charge. He was beheaded; his ſiſter received five ſtrokes of the knout, and was baniſhed into Siberia; two of her ſons, who were chamberlains, were alſo degraded, and ſent as common ſoldiers among the Ruſſian troops in Perſia. On the day ſubſequent to the execution of the ſentenee, Peter conveyed Catherine in an open carriage under the gallows, to which was nailed the head of Moos. The empreſs, without changing colour at this dreadful ſight, exelaimed, "What a pity it is that there is ſo much corruption among courtiers!"

This event happened in the latter end of the year 1724; nnd as it was ſoon followed by Peter's death, and Catherine upon her aeceſſion recalled Madame Balke, it has been ſuſpected that ſhe ſhortened the days of her huſband by poiſon. But notwithſtanding the critical ſituation for Catherine in which he died, and her ſubſequent elevation, this charge is totally deſtitute of the leaſt ſhadow of proof: for the circumſtaoces of Peter's diſorder were too well known, and the peculiar ſymptoms of his laſt illneſs ſufficieotly account for his death, without the neceſſity of recurring to poiſon.

While Peter was yet lyiog in the agonies of death, ſeveral oppoſite parties were caballing to diſpoſe of the crown. At a conſiderable meeting of many among the principal nobility, it was ſecretly determined, on the moment of his diſſolutioo, to arreſt Catherioe, and to place Peter Alexievitch upon the throne. Baſſevitz, apprized of this reſolutioo, repaired in perſon to the empreſs, although it was already night. "My grief and conſternation," replied Catherine, "render me incapable of acting myſelf: do you and prince Menzikof conſult together, and I will embrace the meaſures which you ſhall approve in my name." Baſſevitz, finding Meozikof aſleep, awakened and informed him of the preſſing danger which threatened the empreſs and her party. As oo time remained for long deliberation, the prince inſtaotly ſeized the treaſure, ſecured the fortreſs, gained the officers of the guards hy bribes and promiſes, alſo a few of the nobility, and the principal clergy. Theſe partizaos being convened in the palaee, Catherine made her appearance: ſhe claimed the throne in right of her coronation at Moſeow; ſhe expoſed the ill effects of a minority; and promiſed, that, "ſo far from depriving the great-duke of the crown, ſhe would receive it only as a ſacred depoſit, to be reſtored to him when ſhe ſhould be united, in another world, to an adored huſband, whom ſhe was now upon the point of loſing." Catherine.

The pathetic manner with which ſhe uttered this addreſs, and the tears which accompanied it, added to the previous diſtribution of large ſums of money and jewels, produced the deſired effect: nt the cloſe of this meeting the remainder of the night was employed in making the neceſſary preparations to inſure her acceſſioo in caſe of the emperor's death.

Peter at length expired in the morning of the 28th of January 1725. This event being made known, the ſenate, the generals, the principal oobility and clergy, haſtened to the palace to proclaim the new ſovereign. The adherents of the great-duke ſeemed ſecure of ſucceſs, and the friends of Catherine were avoided as perſons doomed to deſtruction. At this juncture Baſſevitz whiſpered one of the oppoſite party, "The empreſs is miſtreſs of the treaſure and the fortreſs; ſhe has gained over the guards and the ſvood, and many of the chief nohility; even here ſhe has more followers than you imagine; adviſe therefore your friends to make no oppoſitioo as they value their heads." This information being rapidly circulated, Baſſevitz gave the appointed ſignal, aod the two regiments of guards, who had been gained by a largeſs to declare for Catherine, and had already ſurrounded the palace, beat to arms. "Who has dared (exclaimed prince Repnin, the commander in chief) to order out the troops without my knowledge?" "I, (returned general Butterlio), without pretending to diſpute your authority, in obedience to the commands of my moſt gracious miſtreſs." This ſhort reply was followed by a dead ſilenee. In this moment of ſuſpence and anxiety Menzikof entered, preceding Catherine, ſupported hy the duke of Holſtein. She attempted to ſpeak, hut was prevented hy ſighs aod tears from giving utterance to her words: at length, recovering herſelf, "I come (ſhe ſaid), notwithſtanding the grief which now overwhelms me, to aſſure you, that, ſubmiſſive to the will of my departed huſband, whoſe memory will be ever dear to me, I am ready to devote my days to the painful occupations of government until Providence ſhall ſummon me to follow him." Then, after a ſhort pauſe, ſhe artfully added, "If the great-duke will profit by my inſtructions, perhaps I ſhall have the conſolation, duriog my wretched widowhood, of forming for you an emperor worthy of the hlood and the name of him whom you have now irretrievahly loſt." "As this criſis (replied Menzikof) is a moment of ſuch importaoce to the good of the empire, and requires the moſt mature deliberation, your ma-

4 jeſty

Catherine. jeſty will permit us to confer, without reſtraint, that this whole affair may be tranſacted without reproach, as well in the opinion of the preſent age as in that of poſterity." "Acting as I do (anſwered Catherine), more for the public good than for my own advantage, I am not afraid to ſubmit all my concerns to the judgment of ſuch an enlightened aſſembly: you have not only my permiſſion to confer with freedom; but I lay my commands upon you all to deliberate maturely on this important ſubject, and I promiſe to adopt whatever may be the reſult of your deciſions." At the concluſion of theſe words the aſſembly retired into another apartment, and the doors were locked. Catherina.

It was previouſly ſettled by Menzikof and his party that Catherine ſhould be empreſs; and the guards, who ſurrounded the palace with drums beating and colours flying, effectually vanquiſhed all oppoſition. The only circumſtance, therefore, which remained, was to give a juſt colour to her title, by perſuading the aſſembly that Peter intended to have named her his ſucceſſor. For this purpoſe Menzikof demanded of that emperor's ſecretary, whether his late maſter had left any written declaration of his intentions? The ſecretary replied, "That a little before his laſt journey to Moſcow he had deſtroyed a will; and that he had frequently expreſſed his deſign of making another, but had always been prevented by the reflection, that if he thought his people, whom he had raiſed from a ſtate of barbariſm to an high degree of power and glory, could be ungrateful, he would not expoſe his final inclinations to the inſult of a refuſal; and that if they recollected what they owed to his labours, they would regulate their conduct by his intentions, which he had diſcloſed with more ſolemnity than could be manifeſted by any writing." An altercation now began in the aſſembly; and ſome of the nobles having the courage to oppoſe the acceſſion of Catherine, Theophanes archbiſhop of Pleſcof called to their recollection the oath which they had all taken in 1722 to acknowledge the ſucceſſor appointed by Peter; and added, that the ſentiments of that emperor delivered by the ſecretary were in effect an appointment of Catherine. The oppoſite party, however, denied theſe ſentiments to be ſo clear as the ſecretary choſe to inſinuate; and inſiſted, that as their late monarch had failed to nominate his heir, the election of the new ſovereign ſhould revert to the ſtate. Upon this the archbiſhop farther teſtified, that the evening before the coronation of the empreſs at Moſcow, Peter had declared, in the houſe of an Engliſh merchant, that he ſhould place the crown upon her head with no other view than to leave her miſtreſs of the empire after his deceaſe. This atteſtation being confirmed by many perſons preſent, Menzikof cried out, "What need have we of any teſtament! A refuſal to conform to the inclination of our great ſovereign, thus authenticated, would be both unjuſt and criminal. Long live the empreſs Catherine!" Theſe words being inſtantaneouſly repeated by the greateſt part of thoſe who were preſent, Menzikof, ſaluting Catherine by the title of empreſs, paid his firſt obeiſance by kiſſing her hand; and his example was followed by the whole aſſembly. She next preſented herſelf at the window to the guards, and to the people, who ſhouted acclamations of "Long live Catherine!" while Menzikof ſcattered amongſt them handfuls of money. Thus (ſays a contemporary) the empreſs was raiſed to the throne by the guards, in the ſame manner as the Roman emperors by the prætorian cohorts, without either the appointment of the people or of the legions.

The reign of Catherine may be conſidered as the reign of Menzikof, that empreſs having neither inclination or abilities to direct the helm of government; and ſhe placed the moſt implicit confidence in a man who had been the original author of her good fortune, and the ſole inſtrument of her elevation to the throne.

During her ſhort reign her life was very irregular; ſhe was extremely averſe to buſineſs; would frequently, when the weather was fine, paſs whole nights in the open air; and was particularly intemperate in the uſe of tokay-wine. Theſe irregularities, joined to a cancer and a dropſy, haſtened her end; and ſhe expired on the 17th of May 1727, a little more than two years after her acceſſion to the throne, and in about the 40th year of her age.

As the deaths of ſovereigns in deſpotic countries are ſeldom imputed to natural cauſes, that of Catherine has alſo been attributed to poiſon; as if the diſorders which preyed upon her frame were not ſufficient to bring her to her grave. Some aſſert, that ſhe was poiſoned in a glaſs of ſpirituous liquor; others, by a pear given her by general Diever. Suſpicions alſo fell upon prince Menzikof, who, a ſhort time before her deceaſe, had a trifling miſunderſtanding with her, and who was accuſed of haſtening her death, that he might reign with ſtill more abſolute power during the minority of Peter II. But theſe reports deſerve not the leaſt credit, and were merely dictated by the ſpirit of party or by popular rumour.

Catherine was in her perſon under the middle-ſize, and in her youth delicate and well-formed, but inclined to corpulency as ſhe advanced in years. She had a fair complexion, dark eyes, and light hair, which ſhe was always accuſtomed to dye with a black colour. She could neither read nor write: her daughter Elizabeth uſually ſigned her name for her, and particularly to her laſt will and teſtament; and count Oſterman generally put her ſignature to the public decrees and diſpatches. Her abilities have been greatly exaggerated by her panegyriſts. Gordon, who had frequently ſeen her, ſeems, of all writers, to have repreſented her character with the greateſt juſtneſs, when he ſays, "She was a very pretty well-look'd woman, of good ſenſe, but not of that ſublimity of wit, or rather that quickneſs of imagination, which ſome people have believed. The great reaſon why the czar was ſo fond of her, was her exceeding good temper; ſhe never was ſeen peeviſh or out of humour; obliging and civil to all, and never forgetful of her former condition; withal, mighty grateful." Catherine maintained the pomp of majeſty with an air of eaſe and grandeur united; and Peter uſed frequently to expreſs his admiration at the propriety with which ſhe ſupported her high ſtation, without forgetting that ſhe was not born to that dignity.

The following anecdotes will prove that ſhe bore her elevation meekly; and, as Gordon aſſerts, was never forgetful of her former condition. When Wurmb, who had been tutor to Gluck's children at the

Catherine Cathetus

the time that Catherine was a domeſtic in that clergyman's family, preſented himſelf before her after her marriage with Peter had been publicly ſolemnized, ſhe recollected and addreſſed him with great complacency, "What, thou good man, art thou ſtill alive! I will provide for thee." And ſhe accordingly ſettled upon him a penſion. She was no leſs attentive to the family of her benefactor Gluck, who died a priſoner at Moſcow: ſhe penſioned his widow; made his ſon a page; portioned the two eldeſt daughters; and advanced the youngeſt to be one of her maids of honour. If we may believe Weber, ſhe frequently enquired after her firſt huſband; and, when ſhe lived with prince Meozikof, uſed ſecretly to ſend him ſmall ſums of money, until, in 1705, he was killed in a ſkirmiſh with the enemy.

But the moſt noble part of her character was her peculiar humanity and compaſſion for the unfortunate. Motraye has paid an handſome tribute to this excellence. "She had, in ſome ſort, the government of all his (Peter's) paſſions; and even ſaved the lives of a great many more perſons than Le Fort was able to do: ſhe inſpired him with that humanity, which, in the opinion of his ſubjects, nature ſeemed to have denied him. A word from her mouth in favour of a wretch, juſt going to be ſacrificed to his anger, would diſarm him; but if he was fully reſolved to ſatisfy that paſſion, he would give orders for the execution when ſhe was abſent, for fear ſhe ſhould plead for the victim." In a word, to uſe the expreſſion of the celebrated Munich, "*Elle etoit proprement la mediatrice entre le monarque et ſes ſujets.*"

Catherine (Order of St), in modern hiſtory, belongs to ladies of the firſt quality in the Ruſſian court. It was inſtituted in 1714 by Catherine wife of Peter the Great, in memory of his ſignal eſcape from the Turks in 1711. The emblems of this order are a red croſs, ſupported by a figure of St Catherine, and faſtened to a ſcarlet ſtring edged with ſilver, on which are inſcribed the name of St Catherine, and the motto, *Pro fide et patria.*

CATHERLOUGH, a town of Ireland, in the county of Catherlough, and province of Leinſter; ſeated on the river Barrow, 16 miles N. E. of Kilkenny. W. Long. 7. 1. N. Lat. 52. 45.

CATHERLOUGH, a county of Ireland, about 28 miles in length, and eight in breadth; bounded on the eaſt by Wicklow and Wexford, on the weſt by Queen's-county, on the north by Kildare, and on the ſouth and ſouth-weſt by Wexford. It contains 5600 houſes, 42 pariſhes, five baronies or boroughs, and ſends ſix members to parliament, viz. two for the county, two for Catherlough, and two for Old Leighlen.

CATHETER, in ſurgery, a fiſtulous inſtrument, uſually made of ſilver, to be introduced into the bladder, in order to ſearch for the ſtone, or diſcharge the urine when ſuppreſſed. See SURGERY.

CATHETUS, in geometry, a line or radius falling perpendicularly on another line or ſurface; thus the cathetus of a right-angled triangle, are the two ſides that include the right angle.

Cathetus of Incidence, in catoptrics, a right line drawn from a point of the object, perpendicular to the reflecting line.

Cathetus of Reflexion, or *of the Eye*, a right line drawn from the eye perpendicular to the reflecting plane.

Cathetus of Obliquation, a right line drawn perpendicular to the ſpeculum, in the point of incidence or reflexion.

CATHETUS, in architecture, a perpendicular line, ſuppoſed to paſs through the middle of a cylindrical body, as a baluſter, column, &c.

CATHINESS. See CAITHNESS.

CATHOLIC, in a general ſenſe, denotes any thing that is univerſal or general.

Catholic Church. The riſe of hereſies induced the primitive Chriſtian church to aſſume to itſelf the appellation of *catholic*, being a characteriſtic to diſtinguiſh itſelf from all ſects, who, though they had party names, ſometimes ſheltered themſelves under the name of Chriſtians.

The Romiſh church diſtinguiſhes itſelf now by the name of *catholic*, in oppoſition to all thoſe who have ſeparated from her communion, and whom ſhe conſiders as hereties and ſchiſmatics, and herſelf only as the true and Chriſtian church. In the ſtrict ſenſe of the word, there is no catholic church in being, that is, no univerſal Chriſtian communion.

Catholic King, is a title which has been long hereditary to the king of Spain. Mariana pretends, that Reccarede firſt received this title after he had deſtroyed Arianiſm in his kingdom, and that it is found in the council of Toledo for the year 589. Vaſcè aſcribes the origin of it to Alphonſus in 738. Some allege that it has been uſed only ſince the time of Ferdinand and Iſabella. Colombiere ſays, it was given them on occaſion of the expulſion of the Moors. The Bollandiſts pretend it had been borne by their predeceſſors the Viſigoth kings of Spain; and that Alexander VI. only renewed it to Ferdinand and Iſabella. Others ſay, that Philip de Valois firſt bore the title; which was given him after his death by the eccleſiaſtics, on account of his favouring their intereſts.

In ſome epiſtles of the ancient popes, the title *catholic* is given to the kings of France and of Jeruſalem, as well as to ſeveral patriarchs and primates.

CATHOLICON, in pharmacy, a kind of ſoft purgative electuary, ſo called, as being ſuppoſed an univerſal purger of all humours.

CATILINE (Lucius), a Roman of a noble family, who having ſpent his whole fortune in debauchery, formed the deſign of oppreſſing his country, deſtroying the ſenate, ſeizing the public treaſury, ſetting Rome on fire, and uſurping a ſovereign power over his fellow-citizens. In order to ſucceed in this deſign, he drew ſome young noblemen into his plot; whom he prevailed upon, it is ſaid, to drink human blood as a pledge of their union. His conſpiracy, however, was diſcovered by the vigilance of Cicero, who was then conſul. Upon which, retiring from Rome, he put himſelf at the head of an army, with ſeveral of the conſpirators, and fought with incredible valour againſt Petreius, lieutenant to Anthony, who was colleague with Cicero in the conſulſhip; but was defeated and killed in battle. See *(Hiſtory of)* ROME.—Salluſt has given an excellent hiſtory of this conſpiracy.

Cathetus Cato.

CATO (Marcus Portius), the Cenſor, one of the greateſt men among the ancients, was born at Tuſculum in the year of Rome 519, about the 232d before Chriſt.

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Cato. Chriſt. He began to bear arms at 17; and, on all occaſions, ſhowed extraordinary courage. He was a man of great ſobriety, and reckoned no bodily exerciſe unworthy of him. He had but one horſe for himſelf and his baggage, and he looked after and dreſſed it himſelf. At his return from his campaigns, he betook himſelf to plough his ground; not that he was without ſlaves to do it, but it was his inclination. He dreſſed alſo like his ſlaves, ſat down at the ſame table with them, and partook of the ſame fare. He did not in the mean while neglect to cultivate his mind, eſpecially in regard to the art of ſpeaking; and he employed his talents, which were very great, in generouſly pleading cauſes in the neighbouring cities without fee or reward. Valerius Flaccus, who had a country-ſeat near Cato, conceiving an eſteem for him, perſuaded him to come to Rome; where Cato, by his own merit, and the influence of ſo powerful a patron, was ſoon taken notice of, and promoted. He was firſt of all elected tribune of the ſoldiers for the province of Sicily. He was next made queſtor in Africa under Scipio. Having in this laſt office reproved him for his profuſeneſs to his ſoldiers, the general anſwered, that "he did not want ſo exact a queſtor, but would make war at what expence he pleaſed; nor was he to give an account to the Roman people of the money he ſpent, but of his enterpriſes, and the execution of them." Cato, provoked at this anſwer, left Sicily, and returned to Rome.

Afterwards Cato was made prætor, when he fulfilled the duties of his office with the ſtricteſt juſtice. He conquered Sardinia, governed with admirable moderation, and was created conſul. Being tribune in the war of Syria, he gave diſtinguiſhed proofs of his valour againſt Antiochus the Great; and at his return ſtood candidate for the office of cenſor. But the nobles, who not only envied him as a *new* man, but dreaded his ſeverity, ſet up againſt him ſeven powerful competitors. Valerius Flaccus, who had introduced him into public life, and had been his colleague in the conſulſhip, was a ninth candidate, and theſe two united their intereſts. On this occaſion Cato, far from employing ſoft words to the people, or giving hopes of gentleneſs or complaiſance in the execution of his office, loudly declared from the roſtra, with a threatening look and voice, "That the times required firm and vigorous magiſtrates to put a ſtop to that growing luxury which menaced the republic with ruin; cenſors who would cut up the evil by the roots, and reſtore the rigour of ancient diſcipline." It is to the honour of the people of Rome, that, notwithſtanding theſe terrible intimations, they preferred him to all his competitors, who courted them by promiſes of a mild and eaſy adminiſtration: the comitia alſo appointed his friend Valerius to be his colleague, without whom he had declared that he could not hope to compaſs the reformations he had in view. Cato's merit, upon the whole, was ſuperior to that of any of the great men who ſtood againſt him. He was temperate, brave, and indefatigable; frugal of the public money, and not to be corrupted. There is ſcarce any talent requiſite for public or private life which he had not received from nature, or acquired by induſtry. He was a great ſoldier, an able ſtateſman, an eloquent orator, a learned hiſtorian, and very knowing in rural affairs. Yet, with all theſe accompliſhments, he had very great faults. His ambition being poiſoned with envy, diſturbed both his own peace and that of the whole city as long as he lived. Though he would not take bribes, he was unmerciful and unconſcionable in amaſſing wealth by all ſuch means as the law did not puniſh. Cen.

The firſt act of Cato in his new office, was naming his colleague to be prince of the ſenate: after which the cenſors ſtruck out of the liſt of the ſenators the names of ſeven perſons; among whom was Lucius the brother of T. Flaminius. Lucius, when conſul, and commanding in Gaul, had with his own hand murdered a Boian of diſtinction, a deſerter to the Romans; and he had committed this murder purely to gratify the curioſity of his pathic, a young Carthaginian, who longing to ſee ſome body die a violent death, had reproached the general for bringing him away from Rome juſt when there was going to be a fight of gladiators. Titus Flaminius, full of indignation at the diſhonour done to his brother, brought the affair before the people; and inſiſted upon Cato's giving the reaſon of his proceeding. The cenſor related the ſtory; and when Lucius denied the fact, put him to his oath. The accuſed, refuſing to ſwear, was deemed guilty; and Cato's cenſure was approved. But no part of the cenſor's conduct ſeemed ſo cruel to the nobles and their wives as the taxes he laid upon luxury in all its branches; dreſs, houſehold furniture, womens toilets, chariots, ſlaves, and equipage. Theſe articles were all taxed at three *per cent.* of the real value. The people, however, in general, were pleaſed with his regulations; inſomuch that they ordered a ſtatue to be erected to his honour in the temple of *Health*, with an inſcription that mentioned nothing of his victories or triumph, but imported only that by his wiſe ordinances in his cenſorſhip he had reformed the manners of the republic. Plutarch relates, that before this, upon ſome of Cato's friends expreſſing their ſurpriſe, that while many perſons without merit or reputation had ſtatues, he had none; he anſwered, "I had much rather it ſhould be aſked why the people have not erected a ſtatue to Cato, than why they have." Cato was the occaſion of the third Punic war. Being diſpatched to Africa to terminate a difference between the Carthaginians and the king of Numidia, on his return to Rome he reported, that Carthage was grown exceſſively rich and populous, and he warmly exhorted the ſenate to deſtroy a city and republic, during the exiſtence of which, Rome could never be ſafe. Having brought from Africa ſome very large figs, he ſhowed them to the conſcript fathers in one of the lappets of his gown. "The country (ſays he) where this fine fruit grows, is but a three days voyage from Rome." We are told, that from this time he never ſpoke in the ſenate upon any ſubject, without concluding with theſe words, "I am alſo of opinion, that Carthage ought to be deſtroyed." He judged, that, for a people debauched by proſperity, nothing was more to be feared than a rival ſtate, always powerful, and now from its misfortunes grown wiſe and circumſpect. He held it neceſſary to remove all dangers that could be apprehended from *without*, when the republic had *within* ſo many diſtempers threatening her deſtruction.

From the cenſor dignified and ſevere, the reader will

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Cato. will not perhaps be diſpleaſed to turn his view upon Cato ſociable and relaxed. For we ſhould have a falſe notion of him, if we imagined that nothing but a ſad auſterity prevailed in his ſpeech and behaviour. On the contrary, he was extremely free; and often with his friends at table intermixed the converſation with lively diſcourſes and witty ſayings. Of theſe Plutarch has collected a pretty large number; we ſhall relate but one, and make uſe of Balzac's paraphraſe, and the preface with which he introduces it. "The very cenſors, though ſadneſs ſeemed to be one of the functions of their office, did not altogether lay aſide raillery. They were not always bent upon ſeverity; and the firſt Cato, that troubleſome and intolerable honeſt man, ceaſed ſometimes to be troubleſome and intolerable. He had ſome glimpſes of mirth, and ſome intervals of good humour. He dropped now and then ſome words that were not unpleaſant, and you may judge of the reſt by this. He had married a very handſome wife; and hiſtory tells us that ſhe was extremely afraid of the thunder, and loved her huſband well. Theſe two paſſions prompted her to the ſame thing; ſhe always pitched upon her huſband as a ſanctuary againſt thunder, and threw herſelf into his arms at the firſt noiſe ſhe fancied ſhe heard in the ſky. Cato, who was well pleaſed with the ſtorm, and very willing to be careſſed, could not conceal his joy. He revealed that domeſtic ſecret to his friends; and told them one day, ſpeaking of his wife," that ſhe had found out a way to make him love bad weather; and that he never was ſo happy as when Jupiter was angry." It is worth obſerving, that this was during his cenſorſhip; when he degraded the ſenator Manlius, who would probably have been conſul the year after, only for giving a kiſs to his wife in the day-time, and in the preſence of his daughter.

Oeuvres diverſes, p. 49.

Cato died in the year of Rome 604, aged 85. He wrote ſeveral works. 1. A Roman Hiſtory. 2. Concerning the art of war. 3. Of rhetoric. 4. A treatiſe of huſbandry. Of theſe, the laſt only is extant.

Cato (Marcus Portius), commonly called Cato *Minor*, or Cato of *Utica*, was great grandſon of Cato *the Cenſor*. It is ſaid, that from his infancy he diſcovered by his ſpeech, by his countenance, and even his childiſh ſports and recreations, an inflexibility of mind; for he would force himſelf to go through with whatever he had undertaken, though the taſk was ill ſuited to his ſtrength. He was rough towards thoſe that flattered him, and quite intractable when threatened; was rarely ſeen to laugh, or even to ſmile; was not eaſily provoked to anger; but if once incenſed, hard to be pacified. Sylla having had a friendſhip for the father of Cato, ſent often for him and his brother, and talked familiarly with them. Cato, who was then about 14 years of age, ſeeing the heads of great men brought there, and obſerving the ſighs of thoſe that were preſent, aſked his preceptor, "Why does no body kill this man?" Becauſe, ſaid the other, he is more feared than he is hated. The boy replied, Why then did you not give me a ſword when you brought me hither, that I might have ſtabbed him, and freed my country from this ſlavery?

He learned the principles of the Stoic philoſophy, which ſo well ſuited his character, under Antipater of Tyre, and applied himſelf diligently to the ſtudy of it. Eloquence he likewiſe ſtudied, as a neceſſary means to defend the cauſe of juſtice, and he made a very conſiderable proficiency in that ſcience. To increaſe his bodily ſtrength, he inured himſelf to ſuffer the extremes of heat and cold; and uſed to make journeys on foot, and bare-headed in all ſeaſons. When he was ſick, patience and abſtinence were his only remedies: he ſhut himſelf up, and wou'd ſee no body till he was well. Though remarkably ſober in the beginning of his life, making it a rule to drink but once after ſupper, and then retire, he inſenſibly contracted a habit of drinking more freely, and of ſitting at table till morning. His friends endeavoured to excuſe this, by ſaying that the affairs of the public engroſſed his attention all the day; and that, being ambitious of knowledge, he paſſed the night in the converſation of philoſophers. Cæſar wrote that Cato was once found dead drunk at the corner of a ſtreet, early in the morning, by a great number of people who were going to the levee of ſome great man; and that when, by uncovering his face, they perceived who it was, they bluſhed for ſhame: "You would have thought (added Cæſar), that Cato had found them drunk, not they him." Pliny obſerves, that by this reflection Cæſar praiſes his enemy at the ſame time that he blames him. And Seneca, his extravagant panegyriſt, ventures to aſſert, that it is eaſier to prove drunkenneſs to be a virtue, than Cato to be vicious. He affected ſingularity, and, in things indifferent, to act directly contrary to the taſte and faſhions of the age. Magnanimity and conſtancy are generally aſcribed to him; and Seneca would fain make that haughtineſs and contempt for others which, in Cato, accompanied thoſe virtues, a matter of praiſe. Cato, ſays Seneca, having received a blow in the face, neither took revenge nor was angry; he did not even *pardon the affront*, but *denied that he had received it*. His virtue raiſed him ſo high, that injury could not reach him. He is reputed to have been chaſte in his youth. His firſt love was Lepida; but when the marriage was upon the point of being concluded, Metellus Scipio, to whom ſhe had been promiſed, interfered, and the preference was given to him. This affront extremely exaſperated our Stoic. He was for going to law with Scipio; and when his friends had diverted him from that deſign, by ſhowing him the ridicule of it, he revenged himſelf by making verſes upon his rival. When this firſt flame ſubſided, he married Attilia the daughter of Serranus, had two children by her, and afterwards divorced her for her very indiſcreet conduct.

Cato.

He ſerved as a volunteer under Gallius in the war of Spartacus; and when military rewards were offered him by the commander, he refuſed them, becauſe he thought he had no right to them. Some years after, he went a legionary tribune into Macedonia under the prætor Rubrius: in which ſtation he appeared, in his dreſs, and during a march, more like a private ſoldier than an officer: but the dignity of his manners, the elevation of his ſentiments, and the ſuperiority of his views, ſet him far above thoſe who bore the titles of generals and proconſuls. It is ſaid, that Cato's deſign in all his behaviour was to engage the ſoldiers to the love of virtue; whoſe affections he engaged thereby to himſelf, without his having that in his intention. "For the ſincere love of virtue, (adds Plutarch), implies

Cato. plies an affection for the virtuous. Thoſe who praiſe the worthy without loving them, pay homage to their glory; hot are neither admirers nor imitators of their virtues." When the time of his ſervice expired, and he was leaving the army, the ſoldiers were all in tears; ſo effectually had he gained their hearts hy his condeſcending manners, and ſharing in their labours. Aftee his return home, he was ehoſen to the queſtorſhip; and had fcaree entered oo his charge, when he made a great reformation in the queſtor's office, and particularly with regard to the regiſters. Theſe regiſters, whoſe places were for life, and through whoſe hands paſſed ineeſſantly all the public accounts, being to act under young magiſtrates unexperienced in huſineſs, aſſumed an air of importance; and, inſtead of aſking orders from the queſtors, pretended to direct and govero as if they themſelves were the queſtors. Cato reduced them to their proper ſphere.

One thing by which Cato extremely pleaſed the people, was his making the aſſaſſins to whom Sylla had given conſiderable rewards out of the treaſury, for murdering the proſcribed, diſgorge their gains. Plutarch tells us, that Cato was ſo exact in diſcharging the duties of a ſenator, as to be always the firſt who came to the houſe, and the laſt who left it; and that he never quitted Rome during thoſe days when the ſenate was to ſit. Nor did he fail to be preſent at every aſſembly of the people, that he might awe thoſe who, hy an ill-judged facility, beſtowed the puhlic money in largeſſes, and frequently, through mere favour, granted remiſſion of debts due to the ſtate. At firſt his auſterity and ſtiffneſs diſpleaſed his colleagues; but afterwards they were glad to have his name to oppoſe to all the unjuſt ſolicitations, againſt whieh they would have found it difficult to defend themſelves. Cato very readily took opon him the taſk of refuſing.

Cato, to keep out a very bad man, put in for the tribunate. He ſided with Cicero againſt Catiline, and oppoſed Cæſar on that occaſion. His enemies ſent him to recover Cyprus, which Ptolemy had forfeited, thinking to hurt his reputation hy ſo difficult an undertaking; yet none could find fanlt with his conduct.

Cato laboured to bring about an agreement between Cæſar and Pompey; hut ſeeing it in vain, he ſided with the latter. Wheo Pompey was ſlain, he fled to Utica; and being purſued hy Cæſar, adviſed his friends to be gone, and throw themſelves on Cæſar's elemency. His ſon, however, remained with him; and Statilius, a young mau, remarkable for his hatred to Cæſar.

The evening before the execution of the purpoſe he had formed with regard to himſelf, after hathing, he ſupped with his friends and the magiſtrates of the city. They ſat late at table, and the converſation was lively. The diſcourſe falling upoo this maxim of the Stoics, that "the wiſe man alone is free, and that the vicinus are ſlaves;" Demetrius, who was a Peripatetic, undertook to confute it from the maxims of his ſchool. Cato, in anſwer, treated the matter very amply; and with ſo much earneſtneſs and vehemence of voiee, that he betrayed himſelf, and confirmed the ſuſpicions of his friends, that he deſigned to kill himſelf. When he had dooe ſpeaking, a melancholy ſilence enſued; and Cato pereeiving it, turned the diſcourſe to the preſent ſituation of affairs, expreſſing his concern for thoſe who had heen obliged to put to ſea, as well as for thoſe who had determined to make their eſeape hy land, and had a dry and ſandy deſart to paſs. After ſupper, the company being diſmiſſed, he walked for ſome time with a few friends, and gave his orders to the officers of the guard: and going into his chamber, he embraced his ſon and his friends with more than uſual tenderneſs, which farther confirmed the ſuſpicions of the reſolution he had taken. Then laying himſelf down on his bed, he took up Plato's Dialogue on the immortality of the Soul. Having read for ſome time, he looked up, and miſſing his ſword, which his ſon had removed while he was at ſupper, he called a ſlave, and aſked who had taken it away; and receiving no pertinent anſwer, he reſumed his reading. Some time after, he aſked again for his ſword; and, withnut ſhowing any impatience, ordered it to be brought to him: but, having read out the book, and finding nohndy had hrought him his ſword, he called for all his ſervants, fell into a rage, and ſtruck one of them on the mouth with ſo much violence, that he very much hurt his owohand, crying out in a paſſionate manner, "What! do my own ſnn and family conſpire to betray me, nnd deliver me up naked and unarmed to the enemy?" Immediately his ſon and friends ruſhed into the room; and began to lament, and to beſeech him to change his reſolution. Cato raiſing himſelf, and looking fiercely at them, "How long is it," ſaid he, "ſince I have loſt my ſenſes, and my ſon is become my keeper? Brave and generous ſon, why do you not bind yoor father's hands, that when Cæſar comes, he may find me unahle to defend myſelf? Do you imagine that without a ſword I cannot end my life? Cannot I deſtroy myſelf hy holding my hreath for ſome moments, or hy ſtriking my head againſt the wall?" His ſon anſwered with his tears, and retired. Apollonides and Demetrius remained with him, and to them he addreſſed himſelf in the following words: "Is it to watch over me that ye ſit ſilent here? Do you pretend to force a man of my years to live? or eau you bring any eeaſon to prove, that it is not baſe and unworthy of Cato to beg his ſafety of an enemy? or why do you not perſuade me to unlearn what I have been taught, that, rejecting all the opinions I have hitherto defended, I may now, by Cæſar's means, grow wiſer, and he yet more obliged to him than for life alone? Not that I have determined any thing concerning myſelf; hut I would have it in my power to perform what I ſhall think fit to reſolve upon: and I ſhall not fail to aſk your counſel, wheo I have occaſion to act up to the prineiples whieh your philoſophy teaches. Go tell my ſon, that he ſhould not compel his father to what he eannot perſuade him." They withdrew, and the ſword was hrought by a young ſlave. Cato drew it, and finding the point to be ſharp; "Now, (ſaid he), I am my own maſter:" And, laying it down, he took up his hook again, which, it is reported, he read twice over. After this he ſlept ſo ſoundly that he was heard to ſoore hy thoſe who were near him. About midnight he called two of his freedmen, Cleanthes his phyſician, and Butas whom he chiefly employed in the management of his affairs. The laſt he ſent to the port, to ſee whether all the

Romans

Romans were gone; to the phyſician he gave his hand to be dreſſed, which was ſwelled by the blow he had given his ſlave. This being an intimation that he intended to live, gave great joy to his family. Butas ſoon returned, and brought word that they were all gone except Craſſus, who had ſtaid upon ſome buſineſs, but was juſt ready to depart. He added, that the wind was high, and the ſea rough. Theſe words drew a ſigh from Cato. He ſent Butas again to the port, to know whether there might not be ſome one, who, in the hurry of embarkation, had forgot ſome neceſſary proviſions, and had been obliged to put back to Utica. It was now break of day, and Cato ſlept yet a little more, till Butas returned to tell him, that all was perfectly quiet. He then ordered him to ſhut his door; and he flung himſelf upon his bed, as if he meant to finiſh his night's reſt; but immediately he took his ſword, and ſtabbed himſelf a little below his cheſt; yet not being able to uſe his hand ſo well by reaſon of the ſwelling, the blow did not kill him. It threw him into a convulſion, in which he fell from his bed, and overturned a table near it. The noiſe gave the alarm; and his ſon, and the reſt of the family, entering the room, found him weltering in his blood, and his bowels half out of his body. The ſurgeon, upon examination, found that his bowels were not cut; and was preparing to replace them, and bind up the wound, when Cato, recovering his ſenſes, thruſt the ſurgeon from him, and, tearing out his bowels, immediately expired, in the 48th year of his age.

By this raſh act, independent of all moral or religious conſiderations, he carried his patriotiſm to the higheſt degree of political frenzy: for Cato, dead, could be of no uſe to his country; but had he preſerved his life, his counſel might have moderated Cæſar's ambition, and (as Monteſquieu obſerves) have given a different turn to public affairs.

CATOCHE, or CATOCHUS, a diſeaſe, by which the patient is rendered in an inſtant as immoveable as a ſtatue, without either ſenſe or motion, and continues in the ſame poſture he was in at the moment of his being ſeized. See (the *Index* ſubjoined to) MEDICINE.

CATOPTRICS.

CATOPTRICS is that part of optics which explains the properties of reflected light, and particularly that which is reflected from mirrors.

As this and the other branches of OPTICS are fully treated under the collective word, we ſhall, in the preſent article, *1ſt*, Juſt give a ſummary of the principles of the branch, in a few plain aphoriſms, with ſome preliminary definitions; and, *2dly*, Inſert a ſet of entertaining experiments founded upon them.

SECT. I. *Definitions.*

1 Definitions. 1. Every poliſhed body that reflects the rays of light is called a mirror, whether its ſurface be plane, ſpherical, conical, cylindric, or of any other form whatever.

Plate CXXVIII. 2. Of mirrors there are three principally uſed in optical experiments: The plane mirror, G H I, (fig. 1.); the ſpherical convex mirror, G H I, (fig. 2.); and the ſpherical concave mirror, G H I, (fig. 3.)

3. The point K, (fig. 2, 3.) round which the reflecting ſurface of a ſpherical mirror is deſcribed, is called its centre. The line KH, drawn from its centre perpendicular to its two ſurfaces, is the axis of the mirror; and the point H, to which that line is drawn, is its vortex.

4. The diſtance between the lines AG and BG, (fig. 1.) is called the angle of incidence, and the diſtance between BG and CG is the angle of reflection.

SECT. II. *Aphoriſms.*

2 I. In a plain mirror. 1. The image DF, (fig. 1.) will appear as far behind the mirror, as the object AC is before it.

2. The image will appear of the ſame ſize, and in the ſame poſition as the object.

3. Every ſuch mirror will reflect the image of an object of twice its own length and breadth.

4. If the object be an opaque body, and its rays fall on the mirror nearly in direct lines, there will be only one image viſible, which will be reflected by the inner ſurface of the glaſs. But,

5. If the object be a luminous body, and its rays fall very obliquely on the mirror, there will appear, to an eye placed in a proper poſition, ſeveral images; the firſt of which, reflected from the outer ſurface of the glaſs, will not be ſo bright as the ſecond, reflected from the inner ſurface. The following images, that are produced by the repeated reflections of the rays between the two ſurfaces of the glaſs, will be in proportion leſs vivid, to the eighth or tenth, which will be ſcarce viſible.

3 II. In a ſpherical convex mirror. 1. The image DF, (fig. 2.) will always appear behind it.

2. The image will be in the ſame poſition as the object.

3. It will be leſs than the object.

4. It will be curved, but not, as the mirror, ſpherical.

5. Parallel rays falling on this mirror will have the focus or image at half the diſtance of the centre K, from the mirror.

6. In converging rays, the diſtance of the object muſt be equal to half the diſtance of the centre, to make the image appear behind the mirror.

7. Diverging rays will have their image at leſs than half the diſtance of the centre. If the object be placed in the centre of the mirror, its image will appear at one-eighth of that diſtance behind it.

4 III. In a ſpherical concave mirror. 1. That point where the image appears of the ſame dimenſions as the object, is the centre of that mirror.

2. Parallel rays will have their focus at one half the diſtance of the centre.

3. Converging rays will form an image before the mirror.

4. In diverging rays, if the object be at leſs than one half the diſtance of the centre, the image will be behind the mirror, erect, curved, and magnified, as

DEF, (fig. 3.) but if the distance of the object be greater, the image will be before the mirror, inverted and diminished, as DEF, (fig. 4.)

5. The sun's rays falling on a concave mirror, and being parallel, will be collected in a focus at half the distance of its centre, where their heat will be augmented in proportion of the surface of the mirror to that of the focal spot.

6. If a luminous body be placed in the focus of a concave mirror, its rays being reflected in parallel lines will strongly enlighten a space of the same dimension with the mirror, at a great distance. If the luminous object be placed nearer than the focus, its rays will diverge, and consequently enlighten a larger space. It is on this principle that reverberators are constructed.

IV. In all plane and spherical mirrors the angle of incidence is equal to the angle of reflection.

Sect. III. *Entertaining Experiments.*

5. I. Catoptical illusions.

I. Of all our senses the sight is certainly subject to the greatest illusion. The various writers on optics have described a great number of instances in which it deceives us, and have constantly endeavoured to investigate the causes, to explain their effects, and to reconcile appearance with reality. We every day discover new phenomena, and doubtless many more are reserved for posterity. It frequently happens, moreover, that a discovery which at first seemed of little consequence, has led to matters of the highest importance.

Take a glass bottle A (fig. 14.) and fill it with water to the point B; leave the upper part BC empty, and cork it in the common manner. Place this bottle opposite a concave mirror, and beyond its focus, that it may appear reversed, and before the mirror (see sect. ii. aphor. 4. of a spher. concave mirror,) place yourself still further distant from the bottle, and it will appear to you in the situation, *a*, *b*, *c*, (fig. 15.)

Now it is remarkable in this apparent bottle, that the water, which, according to all the laws of catoptrics, and all the experiments made on other objects, should appear at *a b*, appears on the contrary at *b c*, and consequently the part *a b* appears empty.

If the bottle be inverted and placed before the mirror (as in fig. 16.), its image will appear in its natural, erect position; and the water, which is in reality at BC, will appear at *a b*.

If while the bottle is inverted it be uncorked, and the water run gently out, it will appear, that while the part BC is emptying, that of *a b* in the image is filling; and what is likewise very remarkable, as soon as the bottle is empty the illusion ceases, the image also appearing entirely empty. If the bottle likewise be quite full there is no illusion.

If while the bottle is held inverted, and partly empty, some drops of water fall from the bottom A towards BC, it seems in the image as if there were formed at the bottom of the part *a b*, bubbles of air that rose from *a* to *b*; which is the part that seems full of water. All these phenomena constantly appear.

The remarkable circumstances in this experiment, are, first, not only to see an object where it is not, but also where its image is not; and secondly, that of two objects which are really in the same place, as the surface of the bottle and the water it contains, the one is seen at one place, and the other at another; and to see the bottle in the place of its image, and the water where neither it nor its image are.

6. II. Appearance of a boundless vista. fig. 5.

II. Construct a box AB, of about a foot long, eight inches wide, and six high; or what other dimension you shall think fit, provided it does not greatly vary from these proportions.

On the inside of this box, and against each of its opposite ends A and B, place a mirror of the same size. Take off the quicksilver from the mirror that you place at B, for about an inch and an half, at the part C, where you are to make a hole in the box of the same size, by which you may easily view its inside. Cover the top of the box with a frame, in which must be placed a transparent glass, covered with gauze, on the side next the inner part of the box. Let there be two grooves at the parts E and F to receive the two painted scenes hereafter mentioned. On two pieces of cut pasteboard let there be skilfully painted on both sides (see fig. 6. and 7.) any subject you think proper; as woods, gardens, bowers, colonades, &c. and on two other pasteboards, the same subjects on one side only; observing that there ought to be on one of them some object relative to the subject placed at A, that the mirror placed at D may not reflect the hole at C on the opposite side.

Place the two boards painted on both sides in the grooves E and F; and those that are painted on one side only, against the opposite mirrors C and D; and then cover the box with its transparent top. This box should be placed in a strong light to have a good effect.

When the eye is placed at C, and views the objects on the inside of the box, of which some, as we have said, are painted on both sides, they are successively reflected from one mirror to the other; and if, for example, the painting consists of trees, they will appear like a very long vista, of which the eye cannot discern the end: for each of the mirrors repeating the objects, continually more faintly, contribute greatly to augment the illusion.

7. III. Of a fortification of immense extent, fig 8.

III. Take a square box ABCD, of about six inches long, and twelve high; cover the inside of it with four plane mirrors, which must be placed perpendicular to the bottom of the box CHFD.

Place certain objects in relief on the bottom of this box; suppose, for example, a piece of fortification, (as fig. 9.) with tents, soldiers, &c. or any other subject that you judge will produce an agreeable effect by its disposition when repeatedly reflected by the mirrors.

On the top of this box place a frame of glass, in form of the bottom part of a pyramid, whose base AGEB is equal to the size of the box: its top ILN, must form a square of six inches, and should not be more than four or five inches higher than the box. Cover the four sides of this frame with a gauze, that the inside may not be visible but at the top ILN, which should be covered with a transparent glass.

When you look into this box through the glass ILN, the mirrors that are diametrically opposite each other, mutually reflecting the figures inclosed, the eye beholds a boundless extent, completely covered with these

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theſe objects; and if they are properly diſpoſed, the illuſion will occaſion no ſmall ſurprize, and afford great entertaiment.

Note, The nearer the opening ILN is to the top of the box, the greater will be the apparent extent of the ſubject. The ſame will happen if the four mirrors placed on the ſides of the box be more elevated. The objects, by either of theſe diſpoſitions will appear to be repeated nine, twenty-five, forty-nine times, *&c.* by taking always the ſquare of the odd numbers of the arithmetical progreſſion 3, 5, 7, 9, *&c.* as is very eaſy to conceive, if we remember that the ſubject enclofed in the box is always in the centre of a ſquare, compoſed of ſeveral others, equal to that which forms the bottom of the box.

Other pieces of the ſame kind (that is viewed from above) may be contrived, in which mirrors may be placed perpendicular on a triangular, pentagon, or hexagon, (that is, a three, five, or ſix-ſided) plane. All theſe different diſpoſitions, properly directed, as well with regard to the choice as poſition of the objects, will conſtantly produce very remarkable and pleaſing illuſions.

If inſtead of placing the mirrors perpendicular, they were to incline equally, ſo as to form part of a reverſed pyramid, the ſubject placed in the box would then have the appearance of a very extenſive globular or many-ſided figure.

8
IV. Surpriſing multiplication of objects, fig 10.

IV. On the hexagonal or ſix-ſided plane ABCDEF draw ſix ſemi-diameters GA, GB, GC, GD, GE, GF; and on each of theſe place perpendicularly two plane mirrors, which muſt join exactly at the centre G, and which placed back to back muſt be as thin as poſſible. Decorate the exterior boundary of this piece (which is at the extremity of the angles of the hexagon) with ſix columns, that at the ſame time ſerve to ſupport the mirrors, by grooves formed on their inner ſides. (See the profile H). Add to theſe columns their entablatures, and cover the edifice in ſuch manner as you ſhall think proper.

In each one of theſe ſix triangular ſpaces, contained between two mirrors, place little figures of paſteboard, in relief, repreſenting ſuch objects as when ſeen in an hexagonal form will produce an agreeable effect. To theſe add ſmall figures of enamel; and take particular care to conceal, by ſome object that has relation to the ſubject, the place where the mirrors join, which, as we have ſaid before, all meet in the common centre G.

When you look into any one of the ſix openings of this palace, the objects there contained being repeated ſix times, will ſeem entirely to fill up the whole of the building. This illuſion will appear very remarkable; eſpecially if the objects made choice of are properly adapted to the effect that is to be produced by the mirrors.

Note, if you place between two of theſe mirrors part of a fortification, as a curtain and two demi-baſtions, you will ſee an entire citadel, with its ſix baſtions. Or if you place part of a ball-room, ornamented with chandeliers and figures in enamel, all thoſe objects being here multiplied, will afford a very pleaſing proſpect.

9
V. Opaque bodies ſeemingly rendered tranſparent, fig. 11.

V. Within the caſe ABCD, place four mirrors, O, P, Q, R, ſo diſpoſed that they may each of them make an angle of forty-five degrees, that is, that they may be half way inclined from the perpendicular, as in the figure. In each of the two extremities AB, make a circular overture, in one of which fix the tube GL, in the other the tube MF, and obſerve that in each of theſe is to be inſerted another tube, as H and I (A).

Furniſh the firſt of theſe tubes with an object-glaſs at G, and a concave eye-glaſs at F. You are to obſerve, that in regulating the focus of theſe glaſſes, with regard to the length of the tube, you are to ſuppoſe it equal to the line G, or viſual pointed ray, which entering at the overture G, is reflected by the four mirrors, and goes out at the other overture F, where the ocular glaſs is placed. Put any glaſs you will into the two ends of the moveable tubes H and I; and laſtly place the machine on a ſtand E, moveable at the point S, that it may be elevated or depreſſed at pleaſure.

When the eye is placed at F, and you look through the tube, the rays of light that proceed from the object T, paſſing through the glaſs G, are ſucceſſively reflected by the mirrors, O, P, Q, and R, to the eye at F, and there paint the object T, in its proper ſituation, and theſe rays appear to proceed directly from that object.

The two moveable tubes H and I, at the extremities of each of which a glaſs is placed, ſerve only the more to diſguiſe the illuſion, for they have no communication with the interior part of the machine. This inſtrument being moveable on the ſtand E, may be directed to any object; and if furniſhed with proper glaſſes will anſwer the purpoſe of a common perſpective.

The two moveable tubes H and I being brought together, the machine is directed toward any object, and deſiring a perſon to look in at the end F, you aſk him if he ſee diſtinctly that object. You then ſeparate the two moveable tubes, and leaving a ſpace between them ſufficient to place your hand, or any other ſolid body, you tell him that the machine has the power of making objects viſible through the moſt opaque body; and as a proof you deſire him then to look at the ſame object, when, to his great ſurprize, he will ſee it as diſtinct as when there was no ſolid body placed between the tubes.

Note, This experiment is the more extraordinary, as it is very difficult to conceive how the effect is produced. The two arms of the caſe appearing to be made to ſupport the perſpective glaſs; and to whatever object it is directed, the effect is ſtill the ſame.

VI.

(A) Theſe four tubes muſt terminate in the ſubſtance of the caſe, and not enter the inſide, that they may not hinder the effect of the mirrors. The fourfold reflection of the rays of light from the mirrors, darkens in ſome degree the brightneſs of the object; ſome light is alſo loſt by the magnifying power of the perſpective: If, therefore, inſtead of the object-glaſs at G, and concave eye-glaſs at F, plain glaſſes were ſubſtituted; the magnifying power of the perſpective will be taken away, and the object will appear brighter.

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10 VI. VII The magician's mirrors, fig. 12.

VI. In the partition AB, make two overtures, CD, and EF, of a ſort high, and ten inches wide, and about a ſoot diſtant from each other. Let them be at the common height of a man's head; and in each of them place a tranſparent glaſs, ſurrounded with a frame, like a common mirror.

Behind this partition place two mirrors H and I, inclined to it in an angle of forty-five degrees: that is, half-way between a line drawn perpendicular to the ground and its ſurface: let them be both 18 inches ſquare: let all the ſpace between them be incloſed by boards or paſteboard painted black, and well cloſed, that no light may enter: let there be alſo two curtains to cover them, which may be drawn aſide at pleaſure.

When a perſon looks into one of theſe ſuppoſed mirrors, inſtead of ſeeing his own face, he will perceive the object that is in front of the other: ſo that if two perſons preſent themſelves at the ſame time before theſe mirrors, inſtead of each one ſeeing himſelf, they will reciprocally ſee each other.

Note, There ſhould be a ſconce with a candle placed on each ſide of the two glaſſes in the wainſcot, to enlighten the faces of the perſons who look in them, otherwiſe this experiment will have no remarkable effect.

This experiment may be conſiderably improved by placing the two glaſſes in the partition in adjoining rooms, and a number of perſons being previouſly placed in one room, when a ſtranger enters the other, you may tell him his face is dirty; and deſire him to look in the glaſs, which he will naturally do; and on ſeeing a ſtrange face he will draw back: but returning to it, and ſeeing another, another, and another, like the phantom kings in Macbeth, what his ſurprize will be is more eaſy to conceive than expreſs. After this, a real mirror may be privately let down on the back of the glaſs; and if he can be prevailed to look in it once more, he will then, to his further aſtoniſhment, ſee his own face; and may be told, perhaps perſuaded, that all he thought he ſaw before was mere imagination.

How many tricks, leſs artful than this, have paſſed in former times for ſorcery; and paſs at this time, in ſome countries, for apparitions?

Note, When a man looks in a mirror that is placed perpendicular to another, his face will appear entirely deformed. If the mirror be a little inclined, ſo as to make an angle of 80 degrees (that is, one-ninth parts from the perpendicular), he will then ſee all the parts of his face, except the noſe and forehead. If it be inclined to 60 degrees (that is, one-third part), he will appear with three noſes and ſix eyes: in ſhort, the apparent deformity will vary at each degree of inclination; and when the glaſs comes to 45 degrees (that is, half way down), the face will vaniſh. If, inſtead of placing the two mirrors in this ſituation, they are ſo diſpoſed that their junction may be vertical, their different inclinations will produce other effects; as the ſituation of the object relative to theſe mirrors is quite different. The effects of theſe mirrors, though remarkable enough, occaſions but little ſurpriſe, as there is no method of concealing the cauſe by which they are produced.

Fig. 13. VII. Make a box of wood, of a cubical figure, ABCD, of about 15 inches every way. Let it be fixed on the pedeſtal P, at the uſual height of a man's head. In each ſide of this box let there be an opening of an oval form, of ten inches high, and ſeven wide.

In this box place two mirrors A, D, with their backs againſt each other; let them croſs the box in a diagonal line, and in a vertical poſition. Decorate the openings in the ſides of this box with four oval frames and tranſparent glaſſes, and cover each of them with a curtain, ſo contrived that they may all draw up together.

Place four perſons in front of the four ſides, and at equal diſtances from the box, and then draw up the curtains that they may ſee themſelves in the mirrors; when each of them, inſtead of his own figure, will ſee that of the perſon who is next him, and who, at the ſame time, will ſeem to him to be placed on the oppoſite ſide. Their confuſion will be the greater, as it will be very difficult for them to diſcover the mirrors concealed in the box. The reaſon of this phænomenon is evident; for though the rays of light may be turned aſide by a mirror, yet, as we have before ſaid, they always appear to proceed in right lines.

12 VIII. The perſpective mirror, fig. 17.

VIII. Provide a box ABCD of about two feet long, 15 inches wide, and 12 inches high. At the end AC place a concave mirror, the focus of whoſe parallel rays is at 18 inches from the reflecting ſurface. At IL place a paſteboard blacked, in which a hole is cut ſufficiently large to ſee on the mirror H the object placed at BEFD.

Cover the top of the box, from A to I, cloſe, that the mirror H may be entirely darkened. The other part IB, muſt he covered with a glaſs, under which is placed a gauze.

Make an aperture at G, near the top of the ſide E B; beneath which, on the inſide, place, in ſucceſſion, paintings of different ſubjects, as viſtas, landſcapes, &c. ſo that they may be in front of the mirror H. Let the box be ſo placed that the object may be ſtrongly illuminated hy the ſun, or by wax lights placed under the encloſed part of the hox AI.

By this ſimple conſtructinn the objects placed at GD will be thrown into their natural perſpective; and if the ſubjects he properly choſen, the appearance will be altogether as pleaſing as in optical machines of a much more complicated form.

Note, A glaſs mirror ſhould be always here uſed, as thoſe of metal do not repreſent the objects with equal vivacity, and are beſide ſubject to tarniſh. It is alſo neceſſary that the box be ſufficiently large, that you may not be obliged to uſe a mirror whoſe focus is too ſhort; for in that caſe, the right lines near the border of the picture will appear bent in the mirror, which will have a diſagreeable effect, and cannot be avoided.

13 IX. To ſet fire to a combuſtible body by the reflection of two concave mirrors, Fig. 18.

IX. The rays of a luminous body placed in the focus of a concave mirror being reflected in parallel lines, if a ſecond mirror be placed diametrically oppoſite the firſt, it will, by collecting thoſe rays in its focus, ſet fire to a combuſtible body.

Place two concave mirrors, A and B, at about 12 or 15 feet diſtance from each other, and let the axis of each of them be in the ſame line. In the focus C of one of them, place a live coal, and in the focus D of the other, ſome gun-powder. With

a pair of double bellows, which make a continual blaſt, keep conſtantly blowing the coal, and notwithſtanding the diſtance between them, the powder will preſently take fire.

It is not neceſſary that theſe mirrors be of metal or braſs, thoſe made of wood or paſteboard, gilded, will produce the exploſion, which has ſometimes taken effect at the diſtance of 50 feet, when mirrors of 18 inches, or two feet diameter, have been uſed.

This experiment ſucceeds with more difficulty at great diſtances; which may proceed from the moiſture in a large quantity of air. It would doubtleſs take effect more readily, if a tin tube, of an equal diameter with the mirrors, were to be placed between them.

14 The catoptrical partition, fig. 19.

X. Behind the partition AB, place, in a poſition ſomething oblique, the concave mirror EF, which muſt be at leaſt ten inches in diameter, and its diſtance from the partition equal to three-fourths of the diſtance of its centre.

In the partition make an opening of ſeven or eight inches, either ſquare or circular: it muſt face the mirror, and be of the ſame height with it. Behind this partition place a ſtrong light, ſo diſpoſed that it may not be ſeen at the opening, and may illumine an object placed at C, without throwing any light on the mirror.

Beneath the aperture in the partition place the object C, that you intend ſhall appear on the outſide of the partition, in an inverted poſition; and which we will ſuppoſe to be a flower. Before the partition, and beneath the aperture, place a little flower-pot D, the top of which ſhould be even with the bottom of the aperture, that the eye, placed at G, may ſee the flower in the ſame poſition as if its ſtalk came out of the pot.

Take care to paint the ſpace between the back part of the partition and the mirror black, to prevent any reflections of light from being thown on the mirror; in a word, ſo diſpoſe the whole that it may be as little enlightened as poſſible.

When a perſon is placed at the point G, he will perceive the flower that is behind the partition, at the top of the pot at D, but on putting out his hand to pluck it, he will find that he attempts to graſp a ſhadow.

If in the opening of the partition a large double convex lens of a ſhort focus be placed, or, which is not quite ſo well, a bottle of clear water, the image of the flower reflected thereon will appear much more vivid and diſtinct.

Obſervation. The phenomena that may be produced by means of concave mirrors are highly curious and aſtoniſhing. By their aid, ſpectres of various kinds may be exhibited. Suppoſe, for example, a perſon with a drawn ſword placed himſelf before a large concave mirror, but farther from it than its focus; he will then ſee an inverted image of himſelf in the air, between him and the mirror, of a leſs ſize than himſelf. If he ſteadily preſent the ſword towards the centre of the mirror, an image of the ſword will come out therefrom towards the ſword in his hand, point to point, as it were to fence with him; and by his puſhing the ſword nearer, the image will appear to come nearer him, and almoſt to touch his breaſt, having a ſtriking effect upon him. If the mirror be turned 45 degrees, or one eighth round, the reflected image will go out perpendicular to the direction of the ſword preſented, and apparently come to another perſon placed in the direction of the motion of the image. If that perſon is unacquainted with the experiment, and does not ſee the original ſword, he will be much ſurpriſed and alarmed.—This experiment may be another way diverſified, by telling any perſon, that at ſuch an hour, and in ſuch a place, he ſhould ſee the apparition of an abſent or deceaſed friend (of whoſe portrait you are in poſſeſſion). In order to produce this phantom, inſtead of the hole in the partition AB in the laſt figure, there muſt be a door which opens into an apartment to which there is a conſiderable deſcent. Under that door you are to place the portrait, which muſt be inverted and ſtrongly illuminated, that it may be lively reflected by the mirror, which muſt be large and well poliſhed. Then having introduced the incredulous ſpectator at another door, and placed him in the proper point of view, you ſuddenly throw open the door at AB, when, to his great aſtoniſhment, he will immediately ſee the apparition of his friend.

It will be objected, perhaps, that this is not a perfect apparition, becauſe it is only viſible at one point of view, and by one perſon. But it ſhould be remembered, that it was an eſtabliſhed maxim in the laſt centuries, that a ſpectre might be viſible to one perſon and not to others. So Shakeſpeare makes both Hamlet and Macbeth ſee apparitions that were not viſible to others, preſent at the ſame time. It is not unlikely, moreover, that this maxim took its riſe from certain apparitions of this kind that were raiſed by the monks, to ſerve ſome purpoſes they called religious; as they alone were in poſſeſſion of what little learning there then was in the world.

Opticians ſometimes grind a glaſs mirror concave in one direction only, as it is ſaid longitudinally; it is in fact a concave portion of a cylinder, the breadth of which may be conſidered that of the mirror. A perſon looking at his face in this mirror, in the direction of its concavity, will ſee it curiouſly diſtorted in a very lengthened appearance; and by turning the cylindrical mirror a quarter round, his viſage will appear diſtorted another way, by an apparent increaſe in width only. Another curious and ſingular property attends this ſort of mirrors: If in a very near ſituation before it, you put your finger on the right-hand ſide of your noſe, it will appear the ſame in the mirror; but if in a diſtant ſituation, ſomewhat beyond the centre of concavity, you again look at your face in the mirror, your finger will appear to be removed to the other or left-hand ſide of your noſe. This, though ſomething extraordinary, will in its cauſe appear very evident from a ſmall conſideration of the properties of ſpherical concave mirrors.

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Catoptromancy || Cattivellani

CATOPTROMANCY, Κατοπτρομαντεια, a kind of divination among the ancients; ſo called, becauſe conſiſting in the application of a mirror. The word is formed from κατοπτρον, *ſpeculum*, "mirror," and μαντεια, *divinatio*, "divination." Pauſanias ſays, it was in uſe among the Achaians; where thoſe who were ſick, and in danger of death, let down a mirror, or looking glaſs faſtened by a thread, into a fountain before the temple of Ceres; then, looking in the glaſs, if they ſaw a ghaſtly diſfigured face, they took it as a ſure ſign of death: on the contrary, if the fleſh appeared freſh and healthy, it was a token of recovery. Sometimes glaſſes were uſed without water, and the images of things future repreſented in them. See GASTROMANCY.

CATROU (Francis), a famous Jeſuit, born at Paris in 1659. He was engaged for 12 years in the *Journal de Trevoux*, and applied himſelf at the ſame time to other works, which diſtinguiſhed him among the learned. He wrote a general Hiſtory of the Mogul empire, and a Roman hiſtory, in which he was aſſiſted by Father Rouille a brother Jeſuit. Catrou died in 1737; and this laſt hiſtory was continued by Rouille, who died in 1740.

CATTERTHUN, a remarkable Caledonian poſt, a few miles north of the town of Brechin in the county of Angus in Scotland. Mr Pennant deſcribes it as of uncommon ſtrength. "It is (ſays he) of an oval form, made of a ſtupenduous dike of looſe white ſtones, whoſe convexity, from the baſe within to that without, is 122 feet. On the outſide a hollow, made by the diſpoſition of the ſtones, ſurrounds the whole. Round the baſe is a deep ditch, and below that about 100 yards, are veſtiges of another, that went round the hill. The area within the ſtony mound is flat; the axis, or length of the oval, is 436 feet, the tranſverſe diameter 200. Near the eaſt ſide is the foundation of a rectangular building; and on moſt parts are the foundations of others ſmall and circular: all which had once their ſuperſtructures, the ſhelter of the poſſeſſors of the poſt: there is alſo a hollow, now almoſt filled with ſtones, the well of the place." There is another fortification, but of inferior ſtrength, in the neighbourhood. It is called the *Brown Catterthun*, from the colour of the ramparts which are compoſed only of earth. It is of a circular form, and conſiſts of various concentric dikes. On one ſide of this riſes a ſmall rill, which, running down the hill, has formed a deep gully. From the ſide of the fortreſs is another rampart, which extends parallel to the rill, and then reverts, forming an additional poſt or retreat. The meaning of the word *Catter-thun* is *Camp-town*; and Mr Pennant thinks theſe might probably be the poſts occupied by the Caledonians before their engagement at the foot of the Grampian Mountains with the celebrated Agricola. See *(Hiſtory of)* SCOTLAND.

CATTI, a people of Germany, very widely ſpread, on the eaſt reaching to the river Sala, on the north to Weſtphalia: occupying, beſides Heſſe, the Wetterau, and part of the tract on the Rhine, and on the banks of the river Lohne. The Hercynian foreſt began and ended in their country.

CATTIVELLAUNI, anciently a people of Britain, ſeated in the country which is now divided into the counties of Hertford, Bedford, and Bucks. The name of this ancient Britiſh people is written in ſeveral different ways by Greek and Roman authors, being ſometimes called Catti, Caſſii, Catticuelani, Cattidudani, Catticludani, *&c.* That they were of Belgic origin cannot be doubted, and it is not improbable, that they derived their name of Catti from the Belgic word Katten, which ſignifies illuſtrious or noble, and that the addition of Vellauni, which means on the banks of rivers, might be given them after their arrival in Britain, as deſcriptive of the ſituation of their country. However this may be, the Cattivellauni formed one of the moſt brave and warlike of the ancient Britiſh nations when Cæſar invaded Britain, and long after. Caſſibelanus, their prince, was made commander in chief of the confederated Britons, not only on account of his own perſonal qualities, but alſo becauſe he was at the head of one of their braveſt and moſt powerful tribes. In the inverval between the departure of Cæſar and the next invaſion under Claudius, the Cattivellauni had reduced ſeveral of the neighbouring ſtates under their obedience; and they again took the lead in the oppoſition to the Romans at their ſecond invaſion, under their brave but unfortunate prince Caractacus. The country of the Cattivellauni was much frequented and improved by the Romans, after it came under their obedience. Verulamium, their capital, which ſtood near where St Alban's now ſtands, became a place of great conſideration, was honoured with the name and privileges of a municipium or free city, and had magiſtrates after the model of the city of Rome. This place was taken and almoſt deſtroyed by the inſurgents under Boadicia; but it was afterwards rebuilt, reſtored to its former ſplendor, and ſurrounded with a ſtrong wall, ſome veſtiges of which are ſtill remaining. Durocobrivæ and Magiavintum, in the ſecond iter of Antoninus, were probably Dunſtable and Fenny-Stratford, at which places there appear to have been Roman ſtations. The Salenæ of Ptolemy, a town in the country of the Cattivellauni, was perhaps ſituated at Salndy, in Bedfordſhire, where ſeveral Roman antiquities have been found. There were, beſides theſe, ſeveral other Roman forts, ſtations, and towns in this country, which it would be tedious to enumerate. The territories of the Cattivellauni made a part of the Roman province called Britannia Prima.

Cattle & Catullus

CATTLE, a collective word, which ſignifies the fourfooted animals, which ſerve either for tilling the ground, or for food to men. They are diſtinguiſhed into large, or black cattle; and into ſmall cattle: of the former are horſes, bulls, oxen, cows, and even calves and heifers; amongſt the latter are rams, ewes, ſheep, lambs, goats, kids, *&c.* Cattle are the chief ſtock of a farm: they who deal in cattle are ſtyled graziers.

CATULLUS (Caius Valerius), a Latin poet, born at Verona, in the year of Rome 666. The harmony of his numbers acquired him the eſteem and friendſhip of Cicero, and other great men of his time. Many of his poems, however, abound with groſs obſcenities. He wrote ſatirical verſes againſt Cæſar, under the name of Marmoro. He ſpent his whole life in a ſtate of poverty; and died in the flower of his age, and the height of his reputation. Joſeph Scaliger, Paſſerat, Muret, and Iſaac Voſſius, have written learned notes on this poet.

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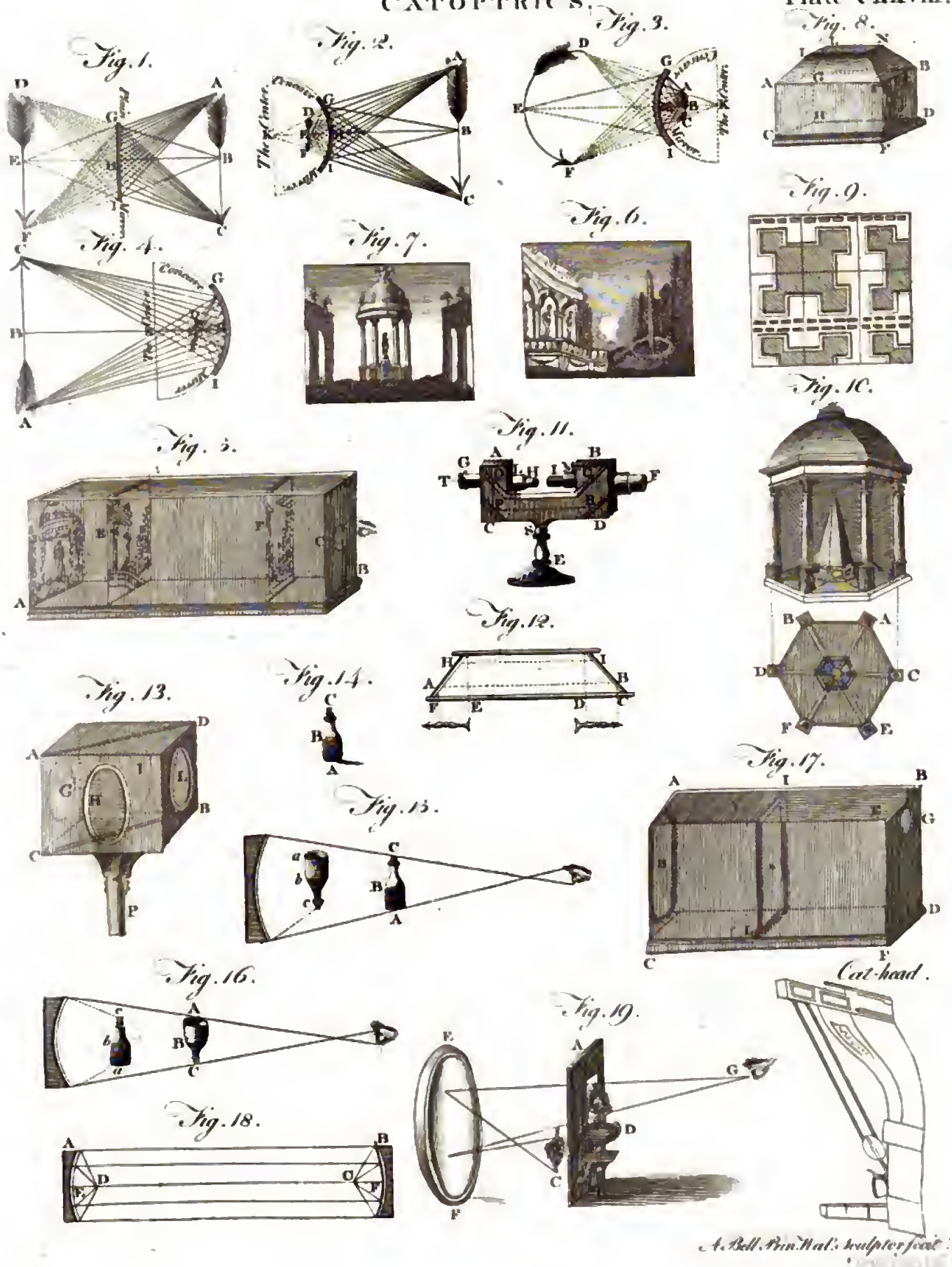
CATOPTRICS. Plate CXXVIII.



A. Bell Prin. Wal. sculptor fecit.

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Catz
Cavalcade.

CATZ (James), a great civilian, politician, and Dutch poet, was born at Brouerſhaven, in Zealand, in the year 1577. After having made ſeveral voyages, he fixed at Middleburg; and acquired by his pleadings ſuch reputation, that the city of Dort choſe him for its penſionary; as did alſo, ſome time after, that of Middleburg. In 1634, he was nominated penſionary of Holland and Weſt Frieſland; and in 1648, he was elected keeper of the ſeal of the ſame ſtate, and ſtadtholder of the fiefs: but ſome time after, he reſigned theſe employments, to enjoy the repoſe which his advanced age demanded. As the poſt of grand penſionary had been fatal to almoſt all thoſe who had enjoyed it, from the beginning of the republic till that time, Catz delivered up his charge on his knees, before the whole aſſembly of the ſtates, weeping for joy, and thanking God for having preſerved him from the inconveniences that ſeemed attached to the duties of that office. But though he was reſolved to ſpend the reſt of his days in repoſe, the love of his country engaged him to comply with the deſires of the ſtate, who importuned him to go on an embaſſy to England, in the delicate conjuncture in which the republic found itſelf during the protectorate of Cromwell. At his return, he retired to his fine country ſeat at Sorgvliet, where he lived in tranquillity till the year 1660, in which he died. He wrote a great number of poems in Dutch; moſt of which are on moral ſubjects, and ſo eſteemed, that they have been often printed in all the different ſizes; and next to the Bible, there is no work ſo highly valued by the Dutch.

CATZENELLIBOGEN, a town of Germany, in the lower part of the upper circle of the Rhine, with a ſtrong caſtle. It is capital of a county of the ſame name. E. Long. 7. 38. N. Lat. 50. 20.

CAVA, in anatomy, the name of a vein, the largeſt in the body, terminating in the right ventricle of the heart. See Anatomy, p. 751. col. 2.

Cava, a conſiderable and populous town of Italy, in the kingdom of Naples, and in the Hither Principato, with a biſhop's ſee. It is ſituated at the foot of Mount Metelian, in E. Long. 15. 5. N. Lat. 40. 40.

CAVAILLAN, a town of France in Contal Venaiſſin, with a biſhop's ſee. It is ſituated on the river Durance, in a fertile and pleaſant country. E. Long. 4. 17. N. Lat. 43. 52.

CAVALCADE, a formal pompous march or proceſſion of horſemen, equipages, &c. by way of parade, or ceremony, as a grace to a triumph, public entry, or the like.

CAVALCADOUR, or Cavaleadeur, anciently denoted a riding-maſter; but at preſent is diſuſed in that ſenſe, and only employed to denote a ſort of equerries or officers who have the direction of princes ſtables. The French ſay, *ecuyer cavalcadeur* of the king, the duke of Orleans, &c. Menage writes it *cavalcadour*, and derives it from the Spaniſh *cavalgador*, a horſeman.

CAVALCANTE (Guido), a nobleman of Florence in the 13th century, who having followed the party of the Guelfes, experienced the changeableneſs of fortune. He ſhowed great ſtrength of mind in his misfortunes, and never neglected to improve his talents. He wrote a treatiſe in Italian concerning ſtyle, and ſome verſes which are eſteemed. His poem on the love of this world, has been commented on by ſeveral learned men.

Cavalier.
Cavalry.

CAVALIER, a horſeman, or perſon mounted on horſeback; eſpecially if he be armed withal, and have a military appearance.

Anciently, the word was reſtrained to a knight, or *miles*. The French ſtill uſe *Chevalier* in the ſame ſenſe.

Cavalier, conſidered as a faction. See Britain, n° 109.

Cavalier, in fortification, an elevation of earth of different ſhapes, ſituated ordinarily in the gorge of a baſtion, bordered with a parapet, and cut into more or leſs embraſures, according to the capacity of the cavalier. Cavaliers are a double defence for the faces of the oppoſite baſtion: they defend the ditch, break the beſiegers galleries, command the traverſes in dry moats, ſcour the ſaliant angle of the counterſcarp, where the beſiegers have their counter-batteries, and enfilade the enemies trenches, or oblige them to multiply their parallels: they are likewiſe very ſerviceable in defending the breach and the retrenchments of the beſieged, and can very much incommode the entrenchments which the enemy make, being lodged in the baſtion.

Cavalier, in the manege, one that underſtands horſes, and is practiſed in the art of riding them.

CAVALIERI (Bonaventure), an eminent mathematician in the 17th century, a native of Milan, and a friar of the order of the Jeſuati of St Jerome, was profeſſor of mathematics at Bologna, where he publiſhed ſeveral mathematical books, particularly the *Method of Indiviſibles*. He was a ſcholar of Galileo. His *Directorium generale Uranometricum* contains great variety of moſt uſeful practices in trigonometry and aſtronomy. His trigonometrical tables in that work are excellent.

CAVALRY, a body of ſoldiers that charge on horſeback. The word comes from the French, *cavalerie*, and that from the corrupt Latin, *caballus*, a horſe.

The Roman cavalry conſiſted wholly of thoſe called *equites*, or knights, who were a diſtinct order in the diſtribution of citizens.—The Grecian cavalry were divided into *cataphractæ* and *non cataphractæ*, i. e. into heavy and light armed.—Of all the Greeks, the Theſſalians excelled moſt in cavalry. The Lacedemonians, inhabiting a mountainous country, were but meanly furniſhed with cavalry, till, carrying their arms into other countries, they found great occaſion for horſes to ſupport and cover their foot. The Athenian cavalry, for a conſiderable time, conſiſted only of 96 horſemen: after expelling the Perſians out of Greece, they increaſed the number to 300; and afterwards to 1200, which was the higheſt pitch of the Athenian cavalry. The Turkiſh cavalry conſiſts partly of Spahis, and partly of horſemen raiſed and maintained by the Zaims and Timariots.

The chief uſe of the cavalry is to make frequent excurſions to diſturb the enemy, intercept his convoys, and deſtroy the country: in battle to ſupport and cover the foot, and to break through and diſorder the enemy; alſo to ſecure the retreat of the foot. Formerly, the manner of the fighting of the cavalry

Cavan
||
Caudex.

was, after firing their piſtols or carabines, to wheel off, to give opportunity for loading again. Guſtavus Adolphus is ſaid to have firſt taught the cavalry to charge through, to march ſtraight up to the enemy, with the ſword drawn in the bridleband, and each man having fired his piece, at the proper diſtance, to betake himſelf to his ſword, and charge the enemy as was found moſt advantageous.

CAVAN, a town of Ireland, and capital of a county of the ſame name, in the province of Ulſter, ſituated in W. Long. 7. 32. N. Lat. 5. 04.

Cavan, a county of Ireland, 47 miles in length, and 23 in breadth; is bounded on the eaſt by Monaghan, and on the ſouth by Longford, Weſt-Meath, and Eaſt-Meath. It has but two towns of any note, viz. Cavan and Kilmore. It ſends five members to parliament; two for the county, two for Cavan, and one for Kilmore. It contains upwards of 8000 houſes, 37 pariſhes, ſeven baronies, and two boroughs.

CAUCASUS, the name of a very high mountain of Aſia, being one of that great ridge which runs between the Black and Caſpian ſeas. Sir John Charindin deſcribes this as the higheſt mountain, and the moſt difficult to paſs, of any he had ſeen. It has frightful precipices, and in many places the roads are cut out of the ſolid rock. At the time he paſſed it, the mountain was entirely covered with ſnow; ſo that, in many places, his guides behoved to clear the way with ſhovels. The mountain is 36 leagues over, and the ſummit of it eight leagues in breadth. The top is perpetually covered with ſnow; and our traveller relates, that the two laſt days he ſeemed to be in the clouds, and was not able to ſee 20 paces before him. Excepting the very top, however, all the parts of Mount Caucaſus are extremely fruitful; abounding in honey, corn, fruits, hogs, and large cattle. The vines twine about the trees, and riſe ſo high, that the inhabitants cannot gather the fruit from the uppermoſt branches. There are many ſtreams of excellent water, and a vaſt number of villages. The inhabitants are for the moſt part Chriſtians of the Georgian Church. They have fine complections, and the women are very beautiful.—In the winter they wear ſnow-ſhoes in the form of rackets, which prevent their ſinking in the ſnow, and enable them to run upon it with great ſwiftneſs.

CAUDEBEC, a rich, populous, and trading town in Normandy, and capital of the territory of Caux. It is ſeated at the foot of a mountain near the river Seine, in E. Long. 0. 46. N. Lat. 40. 30.

CAUDEX, by Malphigi and other botaniſts, is uſed to ſignify the ſtem or trunk of a tree: by Linnæus, the ſtock or body of the root, part of which aſcends, part deſcends. The aſcending part raiſes itſelf gradually above ground, ſerving frequently for a trunk, and correſponds in ſome meaſure to the *caudex* of former writers: the deſcending part ſtrikes gradually downward into the ground, and puts forth radicles or ſmall fibres, which are the principal and eſſential part of every root. The deſcending caudex therefore correſponds to the radix of other botaniſts. Agreeably to this idea, Linnæus conſiders trees and ſhrubs as roots above ground; an opinion which is confirmed by a well-known fact, that trees, when inverted, put forth leaves from the deſcending caudex, and radicles or roots from the aſcending. For the varieties in the deſcending caudex, ſee the article Radix. Caudium, Cave.

CAUDIUM (anc. geog.), a town of Samnium, on the Via Appia, between Calatia and Beneventum: *Caudinus*, the epithet. The *Caudinæ Furcæ*, or *Furculæ*, were memorable by the diſgrace of the Romans; being ſpears diſpoſed in the form of a gallows under which priſoners of war were made to paſs, and gave name to a defile or narrow paſs near *Caudium*, Livy; where the Samnites obliged the Roman army and the two conſuls to lay down their arms and paſs under the gallows, or yoke, as a token of ſubjection.

CAVE, any large ſubterraneous hollow. Theſe were undoubtedly the primitive habitations, before men began to build edifices above ground. The primitive method of burial was alſo to repoſite the bodies in caves, which ſeems to have been the origin of catacombs. They long continued the proper habitations of ſhepherds. Among the Romans, *caves (antra)* uſed to be conſecrated to nymphs, who were worſhipped in caves, as other gods were in temples. The Perſians alſo worſhipped their god Mithras in a natural cave conſecrated for the purpoſe by Zoroaſter. The cave of the nymph Egeria is ſtill ſhown at Rome. Kircher, after Gaffarellus, enumerates divers ſpecies of caves; as divine, natural, &c.—Of natural caves ſome are poſſeſſed of a medicinal virtue, as the Grotto de Serpente; others are poiſonous or mephitical; ſome are replete with metalline cabalations, and others with waters. Divine caves were thoſe ſaid to affect the human mind and paſſions in various ways, and ever to inſpire with a knowledge of future events. Such were the ſacred caverns at Delphi which inſpired the Pythia; the Sibyl's cave at Cumæ, ſtill ſhown near the lake Avernus; the cave of Trophonius, &c.

Cave (Dr William), a learned Engliſh divine born in 1637, educated in St John's college Cambridge; and ſucceſſively miniſter of Haſely in Oxfordſhire, Allhallows the Great in London, and of Iſlington. He became chaplain to Charles II. and in 1684 was inſtalled a canon of Windſor. He compiled *the Lives of the Primitive Fathers in the three firſt centuries of the church*, which is eſteemed a very uſeful work; and *Hiſtoria Literaria*, &c. in which he gives an exact account of all who had written for or againſt Chriſtianity, from the time of Chriſt to the 14th century: which works produced a warm controverſy between Dr Cave and M. Le Clerc, who was then writing his *Bibliotheque Univerſelle* in Holland, and who charged the doctor with partiality. Dr Cave died in 1713.

CAVE (Edward), printer, celebrated as the projector of the *Gentleman's Magazine*,—the firſt publication of the ſpecies, and ſince

> The fruitful mother of a thouſand more,

was born in 1691. His father being diſappointed of ſome ſmall family-expectations, was reduced to follow the trade of a ſhoemaker at Rugby in Warwickſhire. The free ſchool of this place, in which his ſon had, by the rules of its foundation, a right to be inſtructed, was then in high reputation, under the Rev. Mr Holyock, to whoſe care moſt of the neighbouring families, even of the higheſt rank, entruſted their ſons. He had judgment

to

Cave. to diſcover, and for ſome time generoſity to encourage, the genius of young Cave; and was ſo well pleaſed with his quick progreſs in the ſchool, that he declared his reſolution to breed him for the univerſity, and recommend him as a ſervitor to ſome of his ſcholars of bigh rank. But proſperity which depends upon the caprice of others, is of ſhort duration. Cave's ſuperiority in literature exalted him to an invidious familiarity with boys who were far above him in rank and expectations; and, as in unequal aſſociations it always happens, whatever unlucky prank was played was imputed to Cave. When any miſchief, great or ſmall, was done, though perhaps others boaſted of the ſtratagem when it was ſucceſsful, yet upon detection or miſcarriage, the fault was ſure to fall upon poor Cave. The harſh treatment he experienced from this ſource, and which he bore for a while, made him at laſt leave the ſchool, and the hope of a literary education, to ſeek ſome other means of gaining a livelihood.

He was firſt placed with a collector of the exciſe; but the inſolence of his miſtreſs, who employed him in ſervile drudgery, quickly diſguſted him, and he went up to London in queſt of more ſuitable employment. He was recommended to a timber-merchant at the Bankſide; and while he was there on liking, is ſaid to have given hopes of great mercantile abilities: but this place he ſoon left, and was bound apprentice to Mr Collins, a printer of ſome reputation, and deputy alderman. This was a trade for which men were formerly qualified by a literary education, and which was pleaſing to Cave, becauſe it furniſhed ſome employment for his ſcholaſtic attainments. Here, therefore, he reſolved to ſettle, though his maſter and miſtreſs lived in perpetual diſcord, and their houſe was therefore no comfortable habitation. From the inconveniences of theſe domeſtic tumults he was ſoon releaſed, having in only two years attained ſo much ſkill in his art, and gained ſo much the confidence of his maſter, that he was ſent without any ſuperintendant to conduct a printing-houſe at Norwich, and publiſh a weekly paper. In this undertaking he met with ſome oppoſition, which produced a public controverſy, and procured young Cave the reputation of a writer.

His maſter died before his apprenticeſhip was expired, and he was not able to bear the perverſeneſs of his miſtreſs. He therefore quitted her houſe upon a ſtipulated allowance, and married a young widow with whom he lived at Bow. When his apprenticeſhip was over, he worked as a journeyman at the printing-houſe of Mr Barber, a man much diſtinguiſhed and employed by the Tories, whoſe principles had at that time ſo much prevalence with Cave, that he was for ſome years a writer in Miſt's Journal. He afterwards obtained by his wife's intereſt a ſmall place in the poſt-office; but ſtill continued, at his intervals of attendance, to exerciſe his trade or to employ himſelf with ſome typographical buſineſs. He corrected the *Gradus ad Parnaſſum*: and was liberally rewarded by the company of ſtationers. He wrote an Account of the Criminals, which had for ſome time a conſiderable ſale; and publiſhed many little pamphlets that accident brought into his hands, of which it would be very difficult to recover the memory. By the correſpondence which his place in the poſt-office facilitated, he procured a country news-paper, and ſold their intelligence to a journaliſt in London for a guinea a week. He was afterwards raiſed to the office of clerk of the franks, in which he acted with great ſpirit and firmneſs; and often ſtopped franks which were given by members of parliament to their friends, becauſe he thought ſuch extenſion of a peculiar right illegal. This raiſed many complaints; and the influence that was exerted againſt him procured his ejectment from office. He had now, however, collected a ſum ſufficient for the purchaſe of a ſmall printing-office, and began the Gentleman's Magazine; an undertaking to which he owed the affluence in which he paſſed the laſt 20 years of his life, and the large fortune which he left behind him. When he formed the project, he was far from expecting the ſucceſs which he found; and others had ſo little proſpect of its conſequence, that though he had for ſeveral years talked of his plan among printers and bookſellers, none of them thought it worth the trial. That they were not (ſays Dr Johnſon) reſtrained by their virtue from the execution of another man's deſign, was ſufficiently apparent as ſoon as that deſign began to be gainful; for in a few years a multitude of magazines aroſe, and periſhed: only the London Magazine, ſupported by a powerful aſſociation of bookſellers, and circulated with all the art and all the cunning of trade, exempted itſelf from the general fate of Cave's invaders, and obtained though not an equal yet a conſiderable ſale.

Cave now began to aſpire to popularity; and being a greater lover of poetry than any other art, he ſometimes offered ſubjects for poems, and propoſed prizes for the beſt performers. The firſt prize was 50 l. for which, being but newly acquainted with wealth, and thinking the influence of 50l. extremely great, he expected the firſt authors of the kingdom to appear as competitors; and offered the allotment of the prize to the univerſities. But when the time came, no name was ſeen among the writers that had been ever ſeen before; the univerſities and ſeveral private men rejected the province of aſſigning the prize. The determination was then left to Dr Cromwell Mortimer and Dr Birch; and by the latter the award was made, which may be ſeen in Gent. Mag. Vol. VI. p. 59.

Mr Cave continued to improve his Magazine, and had the ſatisfaction of ſeeing its ſucceſs proportionate to his diligence, till in 1751 his wife died of an aſthma. He ſeemed not at firſt much affected by her death, but in a few days loſt his ſleep and his appetite, which he never recovered. After having lingered about two years, with many viciſſitudes of amendment and relapſe, he fell by drinking acid liquors into a diarrhœa, and afterwards into a kind of lethargic inſenſibility; and died Jan. 10. 1754, having juſt concluded the 23d annual collection.

Cave || Caveating.

CAVEARE. See Caviare.

CAVEAT, in law, a kind of proceſs in the ſpiritual courts, to ſtop the proving of a will, the granting tithes of adminiſtration, &c. to the prejudice of another. It is alſo uſed to ſtop the inſtitution of a clerk to a benefice.

CAVEATING, in fencing, is the ſhifting the ſword from one ſide of that of your adverſary to the other.

Cavedo, Cavendish.

CAVEDO, in commerce, a Portugueſe long meaſure, equal to 27$\frac{1}{2}\frac{1}{2}\frac{1}{5}\frac{4}{8}$ Engliſh inches.

CAVENDISH (Thomas), of Suffolk, the ſecond Engliſhman that failed round the globe, was deſcended from a noble family in Devonſhire. Having diſſipated his fortune, he reſolved to repair it at the expence of the Spaniards. He ſailed from Plymouth with two ſmall ſhips in July 1586; paſſed through the ſtraits of Magellan; took many rich prizes along the coaſts of Chili and Peru; and near California poſſeſſed himſelf of the St Ann, an Acapulco ſhip, with a cargo of immenſe value. He completed the circumnavigation of the globe, by returning home round the Cape of Good Hope, and reached Plymouth again in September 1588. On his arrival, it is ſaid, that his ſoldiers and ſailors were clothed in ſilk, his ſails were damaſk, and his topmaſt was covered with cloth of gold. His acquired riches did not laſt long: he reduced himſelf, in 1591, to the expedient of another voyage; which was far from being ſo ſucceſsful as the former; he went no farther than the ſtraits of Magellan, where the weather obliging him to return, he died of grief on the coaſt of Brazil.

Cavendish (Sir William), deſcended of an ancient and honourable family, was born about the year 1505, the ſecond ſon of Thomas Cavendiſh, of Cavendiſh in Suffolk, clerk of the pipe in the reign of Henry VIII. Having had a liberal education, he was taken into the family of the great cardinal Woolſey, whom he ſerved in the capacity of gentleman-uſher of the chamber, when that ſuperb prelate maintained the dignity of a prince. In 1527, he attended his maſter on his ſplendid embaſſy to France, returned with him to England, and was one of the few who continued faithful to him in his diſgrace. Mr Cavendiſh was with him when he died, and delayed going to court till he had performed the laſt duty of a faithful ſervant by ſeeing his body decently interred. The king was ſo far from diſapproving of his conduct, that he immediately took him into his houſehold, made him treaſurer of his chamber, a privy-counſellor, and afterwards conferred on him the order of knighthood. He was alſo appointed one of the commiſſioners for taking the ſurrender of religious houſes. In 1540 he was nominated one of the auditors of the court of augmentations, and ſoon after obtained a grant of ſeveral conſiderable lordſhips in Hertfordſhire. In the reign of Edward VI. his eſtates were much increaſed by royal grants in ſeven different counties; and he appears to have continued in high favour at court during the reign of queen Mary. He died in the year 1557. He was the founder of Chatſworth, and anceſtor of the dukes of Devonſhire. He wrote "The life and death of cardinal Woolſey:" printed at London 1667; reprinted in 1706, under the title of "Memoirs of the great favourite cardinal Woolſey."

Cavendish (William), duke of Newcaſtle, grandſon of Sir William Cavendiſh, was born in 1592. In 1610, he was made knight of the bath; in 1620, raiſed to the dignity of a peer, by the title of baron Ogle, and viſcount Mansfield; and in the third year of king Charles I. created earl of Newcaſtle upon Tyne, and baron Cavendiſh of Boleſover. He was after this made governor to the prince of Wales, afterwards Charles II. When the firſt troubles broke out in Scotland, and the king's treaſury was but indifferently provided, he contributed ten thouſand pounds; and alſo raiſed a troop of horſe, conſiſting of about two hundred knights and gentlemen, who ſerved at their own charge, were commanded by the earl, and honoured with the title of *the prince's troop*. He had after this the command of the northern counties; and was conſtituted general and commander in chief of all the forces that might be raiſed north of Trent, and of ſeveral counties ſouth of that river. He afterwards raiſed an army of eight thouſand horſe, foot, and dragoons; with which he took ſome towns, and gained ſeveral important victories. On this he was advanced to the dignity of marquis of Newcaſtle: but his majeſty's affairs being totally ruined by the raſhneſs of prince Rupert, he, with a few of the principal officers of the army, went abroad, and ſtaid for ſome time at Paris; where, notwithſtanding the vaſt eſtate he had when the civil war broke out, his circumſtances were now ſo bad, that himſelf and wife were reduced to the neceſſity of pawning their clothes for a dinner. He afterwards removed to Antwerp, that he might be nearer his own country; and there, though under great difficulties, reſided for ſeveral years: but, notwithſtanding his diſtreſſes, he was treated, during an exile of eighteen years, with extraordinary marks of diſtinction. On his return to England at the reſtoration, he was advanced to the dignity of earl of Ogle and duke of Newcaſtle. He ſpent his time in a country retirement, and was the patron of men of merit. His grace died in 1679, aged 84. He wrote a treatiſe on horſemanſhip, which is eſteemed; and ſome comedies, which are not.

Mr Granger obſerves, that he was maſter of many accompliſhments, and was much better qualified for a court than a camp: that he underſtood horſemanſhip, muſic, and poetry; but was a better horſeman than muſician, and a better muſician than poet.

Cavendish (Margaret), ducheſs of Newcaſtle, famous for her voluminous productions, was born about the latter end of the reign of James I. and was the youngeſt ſiſter of Lord Lucas of Colcheſter. She married the duke of Newcaſtle abroad in 1645; and on their return after the reſtoration, ſpent the remainder of her life in writing plays, poems, with the life of her huſband, to the amount of about a dozen of folios. "What gives the beſt idea of her unbounded paſſion for ſcribbling (ſays Mr Walpole), was her ſeldom reviſing the copies of her works, leſt, as ſhe ſaid, it ſhould diſturb her following conceptions." She died in 1673.

Cavendish (William), the firſt duke of Devonſhire, and one of the moſt diſtinguiſhed patriots in the Britiſh annals, was born in 1640. In 1677, being then member for Derby, he vigorouſly oppoſed the venal meaſures of the court; and, the following year, was one of the committee appointed to draw up articles of impeachment againſt the lord treaſurer Danby. In 1679, being re-elected to ſerve for Derby in a new parliament, Charles II. thought fit to make him a privy counſellor; but he ſoon withdrew from the board, with his friend lord Ruſſel, when he found that popiſh intereſt prevailed. He carried up the articles of impeachment to the houſe of lords, againſt lord chief juſtice Scroggs, for his arbitrary and illegal proceedings

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Cavendiſh || Caviare.

ings in the court of king's bench; and when the king declared his reſolution not to ſign the bill for excluding the Duke of York (afterwards James II.), he moved the houſe of commons, that a bill might be brought in for the aſſociation of all his majeſty's proteſtant ſubjects. He alſo openly named the king's evil counſellors, and voted for an addreſs to remove them from his preſence and councils for ever. He nobly appeared at lord Ruſſel's trial, in defence of that great man, at a time when it was ſcarce more criminal to be an accomplice than a witneſs for him. The ſame fortitude, activity, and love of his country, animated this illuſtrious patriot to oppoſe the arbitrary proceedings of James II.; and when he ſaw there was no other method of ſaving the nation from impending ſlavery, he was the foremoſt in the aſſociation for inviting over the prince of Orange, and the firſt nobleman who appeared in arms to receive him at his landing. He was created Duke of Devonſhire in 1694, by William and Mary. His laſt public ſervice was in the union with Scotland, for concluding of which he was appointed a commiſſioner by queen Anne. He died in 1707, and ordered the following inſcription to be put on his monument.

Willielmus Dux Devon,
Bonorum Principum Fidelis Subditus,
Iniinicus et Inviſus Tyrannis.
William Duke of Devonſhire,
Of good Princes the faithful Subject,
The Enemy and Averſion of Tyrants.

Beſides being thus eſtimable for public virtues, his grace was diſtinguiſhed by his literary accompliſhments. He had a poetical genius, which ſhowed itſelf particularly in two pieces, written with equal ſpirit, dignity, and delicacy: theſe are, an ode on the death of queen Mary; and an alluſion to the archbiſhop of Cambray's ſupplement to Homer. He had great knowledge in the languages, was a true judge in hiſtory, and a critic in poetry; he had a fine hand in muſic, an elegant taſte in painting, and in architecture had a ſkill equal to any perſon of the age in which he lived. His predeceſſor, Sir John Cavendiſh, was the perſon who killed the famous Watt Tyler in 1381.

CAVETTO, in architecture, a hollow member, or round concave moulding, containing a quadrant of a circle, and having a quite contrary effect to that of a quarter round: it is uſed as an ornament in cornices.

CAVEZON, in the manege, a ſort of noſe-band, either of iron, leather, or wood, ſometimes flat, and at other times hollow or twiſted, clapt upon the noſe of a horſe to wring it, and ſo forward the ſuppling and breaking of the horſe.

CAVIARE, a kind of food lately introduced into Britain. It is made of the hard roes of ſturgeon *, formed into ſmall cakes, about an inch thick and three or four inches broad. The method of making it is, by taking out of the ſpawn all the nerves or ſtrings, then waſhing it in white-wine or vinegar, and ſpreading it on a table. It is then ſalted and preſſed in a fine bag; after which it is caſed up in a veſſel with a hole at the bottom, that if any moiſture is left it may run out. This kind of food is in great requeſt among the Moſcovites, on account of their three lents, which they keep with a ſuperſtitious exactneſs; wherefore the Italians ſettled at Moſcow drive a very great trade in this commodity throughout that empire, there being a prodigious quantity of ſturgeon taken at the mouth of the Wolga and other rivers which fall into the Caſpian ſea. A pretty large quantity of the commodity is alſo conſumed in Italy and France. They get the caviare from Archangel, but commonly buy it at ſecond hand of the Engliſh and Dutch.—According to Savary, the beſt caviare brought from Muſcovy is prepared from the belluga, a fiſh eight or ten feet long, caught in the Caſpian ſea, which is much preferable to that made of the ſpawn of ſturgeon. A kind of caviare, or rather ſauſage, is alſo made from the ſpawn of ſome other fiſhes; particularly a ſort of mullet caught in the Mediterranean. See Mugil and Botargo.

* See Acipenſer.

Inſect Caviare. See Axayacatl.

CAVIDOS. See Casidos.

Cavidos || Cauſines.

CAVIL, (*cavillatio*), is defined by ſome a fallacious kind of reaſon, carrying ſome reſemblance of truth, which a perſon, knowing its falſehood, advances in diſpute for the ſake of victory. The art of framing ſophiſms or fallacies is called by Boethius *cavillatoria*.

CAUK, or Cawa. See Tilia Ponderoſa, and Chemstay, *Index*.

CAUKING, or Caulking, *of a ſhip*, is driving a quantity of oakum, or old ropes untwiſted and drawn aſunder, into the ſeams of the planks, or into the intervals where the planks are joined together in the ſhip's decks or ſides, in order to prevent the entrance of water. After the oakum is driven very hard into theſe ſeams, it is covered with hot melted pitch or roſin, to keep the water from rotting it.

Among the ancients, the firſt who made uſe of pitch in caulking, were the inhabitants of Phocacia, afterwards called Corſica. Wax and roſin appear to have been commonly uſed previous to that period; and the Poles at this time uſe a ſort of unctuous clay for the ſame purpoſe, on their navigable rivers.

Caulking-Irons, are iron chiſſels for that purpoſe. Some of theſe irons are broad, ſome round, and others grooved. After the ſeams are ſtopped with oakum, it is done over with a mixture of tallow, pitch, and tar, as low as the ſhip draws water.

CAUL, in anatomy, a membrane in the abdomen, covering the greateſt part of the guts; called, from its ſtructure, *Reticulum*, but moſt frequently *Omentum*. See Anatomy, n° 90.

Caul is likewiſe a little membrane, found on ſome children, encompaſſing the head when born.

Drelincourt takes the *caul* to be only a fragment of the membranes of the fœtus; which ordinarily break at the birth of the child. Lampridius tells us, that the midwives ſold this *caul* at a good price to the advocates and pleaders of his time; it being an opinion, that while they had this about them, they ſhould carry with them a force of perſoaſion which no judge could withſtand: the canons forbid the uſe of it; becauſe ſome witches and ſorcerers, it ſeems, had abuſed it.

CAULIFLOWERS, in gardening, a much eſteemed ſpecies of cabbage. See Brassica.

CAURIS, in natural hiſtory, a name given by ſome to the genus of ſhells called, by the generality of writers, *porcellana*, and *concha veneria*. It is from a falſe pronunciation of this word *cauris* that we call theſe ſhells *gowries*. See *Porcelain-Shell*.

CAURSINES, (*Courſini*), were Italians that came into England about the year 1235, terming themſelves

Cauſa ‖ Cauſe.

the Pope's merchants, but driving no other trade than letting out money; and having great banks in England, they differed little from Jews, ſave (as hiſtory ſays) they were rather more mercileſs to their debtors. Some will have them called *Courſines*, quaſi *Cauſa Urſini*, bearish and cruel in their cauſes; others *Caorſini* or *Corſini*, as coming from the iſle of Corſica; but Cowel ſays, they have their name from *Caorſium*, *Caorſi*, a town in Lombardy, where they firſt practiſed their arts of uſury and extortion; from whence, ſpreading themſelves, they carried their infamous trade through moſt parts of Europe, and were a common plague to every nation where they came. The then biſhop of London excommunicated them; and king Henry III. baniſhed them from this kingdom in the year 1240. But, being the pope's ſolicitors and money-changers, they were permitted to return in the year 1250; tho' in a very ſhort time they were again driven out of the kingdom on account of their intolerable exactions.

CAUSA MATRIMONII PRÆLOCUTI, in common law, a writ that lies where a woman gives land to a man in fee to the intent he ſhall marry her, and he refuſes to do it in a reaſonable time, being thereunto required by the woman; and in ſuch caſe, for not performing the condition, the entry of the woman into the lands again has been adjudged lawful.

The huſband and wife may ſue this writ againſt another who ought to have married her.

CAUSALITY, among metaphyſicians, the action or power of a cauſe in producing its effect.

CAUSALTY, among miners, denotes the lighter, ſulphureous, earthy parts of ores, carried off in the operation of waſhing. This, in the mines, they throw in heaps upon banks, which in ſix or ſeven years they find it worth their while to work over again.

CAUSE, that from whence any thing proceeds, or by virtue of which any thing is done: it ſtands oppoſed to effect. We get the ideas of cauſe and effect from our obſervation of the viciſſitude of things, while we perceive ſome qualities or ſubſtances begin to exiſt, and that they receive their exiſtence from the due application and operation of other beings. That which produces, is the cauſe; and that which is produced, the effect: thus, fluidity in wax is the effect of a certain degree of heat, which we obſerve to be conſtantly produced by the application of ſuch heat.

Reid on the Active Powers of Man.

Ariſtotle, and the ſchoolmen after him, diſtinguiſhed four kinds of cauſes; the efficient, the material, the formal, and the final. This, like many of Ariſtotle's diſtinctions, is only a diſtinction of the various meanings of an ambiguous word; for the efficient, the matter, the form and the end, have nothing common in their nature, by which they may be accounted ſpecies of the ſame *genus*; but the Greek word, which we tranſlate *cauſe*, had theſe four different meanings in Ariſtotle's days, and we have added other meanings. We do not indeed call the matter or the form of a thing its cauſe; but we have final cauſes, inſtrumental cauſes, occaſional cauſes, and many others. Thus the word *cauſe* has been ſo hackneyed, and made to have ſo many different meanings in the writings of philoſophers, and in the diſcourſe of the vulgar, that its original and proper meaning is loſt in the crowd.

With regard to the phenomena of nature, the important end of knowing their cauſes, beſides gratifying our curioſity, is, that we may know when to expect them, or how to bring them about. This is very often of real importance in life; and this purpoſe is ſerved, by knowing what, by the courſe of nature, goes before them and is connected with them; and thus, therefore, we call the *cauſe* of ſuch a phenomenon. Cauſe.

If a magnet be brought near to a mariner's compaſs, the needle, which was before at reſt, immediately begins to move, and bends its courſe towards the magnet, or perhaps the contrary way. If an unlearned ſailor is aſked the cauſe of this motion of the needle, he is at no loſs for an anſwer. He tells you it is the magnet; and the proof is clear; for, remove the magnet, and the effect ceaſes; bring it near, and the effect is again produced. It is, therefore, evident to ſenſe, that the magnet is the cauſe of this effect.

A Carteſian philoſopher enters deeper into the cauſe of this phenomenon. He obſerves, that the magnet does not touch the needle, and therefore can give it no impulſe. He pities the ignorance of the ſailor. The effect is produced, ſays he, by magnetic effluvia, or ſubtile matter, which paſſes from the magnet to the needle, and forces it from its place. He can even ſhow you, in a figure, where theſe magnetic effluvia iſſue from the magnet, what round they take, and what way they return home again. And thus he thinks he comprehends perfectly how, and by what cauſe, the motion of the needle is produced.

A Newtonian philoſopher inquires what proof can be offered for the exiſtence of magnetic effluvia, and can find none. He therefore holds it as a fiction, a hypotheſis; and he has learned that hypotheſes ought to have no place in the philoſophy of nature. He confeſſes his ignorance of the real cauſe of this motion, and thinks that his buſineſs as a philoſopher is only to find from experiment the laws by which it is regulated in all caſes.

Theſe three perſons differ much in their ſentiments with regard to the real cauſe of this phenomenon; and the man who knows moſt is he who is ſenſible that he knows nothing of the matter. Yet all the three ſpeak the ſame language, and acknowledge that the cauſe of this motion is the attractive or repulſive power of the magnet.

What has been ſaid of this, may be applied to every phenomenon that falls within the compaſs of natural philoſophy. We deceive ourſelves, if we conceive that we can point out the real efficient cauſe of any one of them.

The grandeſt diſcovery ever made in natural philoſophy, was that of the law of gravitation, which opens ſuch a view of our planetary ſyſtem, that it looks like ſomething divine. But the author of this diſcovery was perfectly aware that he diſcovered no real cauſe, but only the law or rule according to which the unknown cauſe operates.

Natural philoſophers, who think accurately, have a preciſe meaning to the terms they uſe in the ſcience; and when they pretend to ſhow the cauſe of any phenomenon of nature, they mean by the cauſe, a law of nature of which that phenomenon is a neceſſary conſequence.

The whole object of natural philoſophy, as Newton expreſsly teaches, is reducible to theſe two heads: firſt, by juſt induction from experiment and obſervation, to

Cauſe, Cauſeway.

diſcover the laws of nature; and then to apply thoſe laws to the ſolution of the phenomena of nature. This was all that this great philoſopher attempted, and all that he thought attainable. And this indeed he attained in a great meaſure, with regard to the motions of our planetary ſyſtem, and with regard to the rays of light.

But ſuppoſing that all the phenomena which fall within the reach of our ſenſes were accounted for from general laws of nature juſtly deduced from experience; that is, ſuppoſing natural philoſophy brought to its utmoſt perfection; it does not diſcover the efficient cauſe of any one phenomenon in nature.

The laws of nature are the rules according to which the effects are produced; but there muſt be a cauſe which operates according to theſe rules. The rules of navigation never navigated a ſhip. The rules of architecture never built a houſe.

Natural philoſophers, by great attention to the courſe of nature, have diſcovered many of her laws, and have very happily applied them to account for many phenomena: but they have never diſcovered the efficient cauſe of any one phenomenon; nor do thoſe who have diſtinct notions of the principles of the ſcience make any ſuch pretence.

Upon the theatre of nature we ſee innumerable effects, which require an agent endowed with active power; but the agent is behind the ſcene. Whether it be the Supreme Cauſe alone, or a ſubordinate cauſe or cauſes; and if ſubordinate cauſes be employed by the Almighty, what their nature, their number, and their different offices may be; are things hid, for wiſe reaſons, without doubt, from the human eye.

Cause, among civilians, the ſame with action. See Action.

Cause, among phyſicians. The cauſe of a diſeaſe is defined by Galen to be that during the preſence of which we are ill, and which being removed the diſorder immediately ceaſes. The doctrine of the cauſes of diſeaſes is called Etiology.

Phyſicians divide cauſes into procatarctic, antecedent, and continent.

Procatarctic Cause, αἰτία προκαταρκτική, called alſo *primitive* and *incipient cauſe*, is either an occaſion which of its own nature does not beget a diſeaſe, but, happening on a body inclined to diſeaſes, breeds a fever, gout, &c. (ſuch as are watching, faſting, and the like); or an evident and manifeſt cauſe, which immediately produces the diſeaſe, as being ſufficient thereto, ſuch as is a ſword in reſpect of a wound.

Antecedent Cause, αἰτία προηγουμένη, a latent diſpoſition of the body, from whence ſome diſeaſe may ariſe; ſuch as a plethora in reſpect of a fever, a cacochymia in reſpect of a ſcurvy.

Continent, *Conjunct*, or *Proximate Cause*, that principle in the body, which immediately adheres to the diſeaſe, and which being preſent, the diſeaſe is alſo preſent; or, which being removed, the diſeaſe is taken away: ſuch is the ſtone in a nephritic patient.

CAUSEWAY, or Causey, a maſſive conſtruction of ſtone, ſtakes, and faſcines; or an elevation of fat, viſcous earth, well beaten; ſerving either as a road in wet marſhy places, or as a mole to retain the waters of a pond, or prevent a river from overflowing the lower grounds. See Road.—The word comes from the French *Chauſſee*, anciently wrote *Chauſſes*; and that from the Latin *Calceata*, or *Calcata*; according to Somner and Spelman, *a calcando*. Bergier rather takes the word to have had its riſe *à peditum calceis, quibus teruntur*. Some derive it from the Latin *calx*, or French *chaux*, as ſuppoſing it primarily to denote a way paved with chalk-ſtones. Cauſeway, Cauſticity.

Causeway, *calcetum*, or *calcea*, more uſually denotes a common hard raiſed way, maintained and repaired with ſtones and rubbiſh.

Devil's Causeway, a famous work of this kind, which ranges through the county of Northumberland, commonly ſuppoſed to be Roman, though Mr Horſley ſuſpects it to be of later times.

Giant's Causeway, is a denomination given to a huge pile of ſtony columns in the diſtrict of Coleraine in Ireland. See *Giant's Cauſeway*.

CAUSSIN (Nicholas), ſurnamed the Juſt, a French Jeſuit, was born at Troyes in Champagne, in the year 1580; and entered into the Jeſuits order when he was 26 years of age. He taught rhetoric in ſeveral of their colleges, and afterwards began to preach, by which he gained very great reputation. He increaſed this reputation by publiſhing books, and in time was preferred to be confeſſor to the king. But he did not diſcharge this office to the ſatisfaction of Cardinal Richelieu, though he diſcharged it to the ſatisfaction of every honeſt man; and therefore, it is not to be wondered at that he came at length to be removed. He died in the Jeſuits convent at Paris in 1651. None of his works did him more honour than that which he entitled *La Cour Sainte*. It has been printed a great many times; and tranſlated into Latin, Italian, Spaniſh, Portugueſe, German, and Engliſh. He publiſhed ſeveral other books both in Latin and French.

CAUSTICITY, a quality belonging to ſeveral ſubſtances, by the acrimony of which the parts of living animals may be corroded and deſtroyed. Bodies which have this quality, when taken internally, are true poiſons. The cauſticity of ſome of theſe, as of arſenic, is ſo deadly, that even their external uſe is proſcribed by prudent phyſicians. Several others, as nitrous acid, lapis infernalis or lunar cauſtic, common cauſtic, butter of antimony, are daily and ſucceſsfully uſed to conſume fungous fleſh, to open iſſues, &c. They ſucceed very well when properly employed and ſkilfully managed.

The cauſticity of bodies depends entirely on the ſtate of the ſaline, and chiefly of the acid, matters they contain. When theſe acids happen to be at the ſame time much concentrated, and ſlightly attached to the matters with which they are combined, they are then capable of acting, and are corroſive or cauſtic. Thus fixed and volatile alkalies, although they are themſelves cauſtic, become much more ſo by being treated with quicklime; becauſe this ſubſtance deprives them of much fat and inflammable matter, and all their fixed air, which binds and reſtrains the action of their ſaline principle. By this treatment, then, the ſaline principle is more diſengaged, and rendered more capable of action. Alſo all combinations of metallic matters with acids form ſalts more or leſs corroſive, becauſe theſe acids are deprived of all their ſuperabundant water, and are beſides but imperfectly ſaturated with the metallic matters. Nevertheleſs, ſome other circumſtance is neceſſary to conſtitute the cauſticity of theſe ſaline metalline

Cauſticity. metalline matters. For the ſame quantity of marine acid, which, when pure and diluted with a certain quantity of water, would be productive of no harm, ſhall, however, produce all the effects of a corroſive poiſon, when it is united with mercury in *corroſive ſublimate*, although the ſublimate ſhall be diſſolved in ſo much water that its cauſticity cannot be attributed to the concentration of its acid. This effect is, by ſome chemiſts, attributed to the great weight of the metallic matters with which the acid is united; and this opinion is very probable, ſeeing its cauſticity is nothing but its diſſolving power, or its diſpoſition to combine with other bodies; and this diſpoſition is nothing elſe than attraction.

On this ſubject Dr Black obſerves, that the compounds produced by the union of the metals with acids are in general corroſive. Many of them applied to the ſkin deſtroy it almoſt as faſt as the mineral acids; and ſome of the moſt powerful potential cauteries are made in this way. Some are reckoned more acrid than the pure acids themſelves; and they have more powerful effects when taken internally, or at leaſt ſeem to have. Thus we can take 10 or 12 drops of a foſſil acid, diluted with water, without being diſturbed by it; but the ſame quantity of acid previouſly combined with ſilver, quickſilver, copper, or regulus of antimony, will throw the body into violent diſorders, or even prove a poiſon, if taken all at once.

This increaſed activity was, by the mechanical philoſophers, ſuppoſed to ariſe from the weight of the metallic particles. They imagined that the acid was compoſed of minute particles of the ſhape of needles or wedges; by which means they were capable of entering the pores of other bodies, ſeparating their atoms from each other, and thus diſſolving them. To theſe acid ſpiculæ the metallic particles gave more force; and the momentum of each particular needle or wedge was increaſed in proportion to its increaſe of gravity by the additional weight of the metallic particle. But this theory is entirely fanciful, and does not correſpond with facts. The activity of the compound is not in proportion to the weight of the metal; nor are the compounds always poſſeſſed of any great degree of acrimony: neither is it true that any of them have a greater power of deſtroying animal ſubſtances than the pure acids have.

There is a material difference between the powers called *ſtimuli* and *corroſives*. Let a perſon apply to any part of the ſkin a ſmall quantity of lunar cauſtic, and likewiſe a drop of ſtrong nitrous acid, and he will find that the acid acts with more violence than the cauſtic; and the diſorders that are occaſioned by the compounds of metals and acids do not proceed from a *cauſticity* in them, but from the metal affecting and proving a ſtimulus to the nerves: and that this is the caſe, appears from their affecting ſome particular nerves of the body. Thus the compounds of regulus of antimony and mercury with the vegetable acids, do not ſhow the ſmalleſt degree of acrimony; but, taken internally, they produce violent convulſive motions over the whole body, which are occaſioned by the metallic matter having a power of producing this effect; and the acid is only the means of bringing it into a diſſolved ſtate, and making it capable of acting on the nervous ſyſtem. In general, however, the compounds of metallic ſubſtances with acids may be conſidered as milder than the acids in a ſeparate ſtate; but the acid is not ſo much neutralized as in other compounds, for it is leſs powerfully attracted by the metal; ſo that alkaline ſalts, abſorbent earths, or even heat alone, will decompound them; and ſome of the inflammable ſubſtances, as ſpirit of wine, aromatic oils, &c. will attract the acid, and precipitate the metal in its metallic form; and the metals can be employed to precipitate one another in their metallic form; ſo that the cohеſion of theſe compounds is much weaker than thoſe formed of the ſame acids with alkaline ſalts or earths. Cauſtic & Cas.

CAUSTICS, in phyſics, an appellation given to medicines of ſo hot and fiery a nature, that, being applied, conſume, and as it were burn, the texture of the parts, like hot iron.

Cauſtics are generally divided into four ſorts; the common ſtronger cauſtic, the common milder cauſtic, the antimonial cauſtic, and the lunar cauſtic. See Pharmacy and Chemistry.

Caustic Curve, in the higher geometry, a curve formed by the concourſe or coincidence of the rays of light reflected from ſome other curve.

CAUSUS, or Burning Fever, a ſpecies of continual fever, accompanied with a remarkable inflammation of the blood.

CAUTERIZATION, the act of burning or ſearing ſome morbid part, by the application of fire either actual or potential. In ſome places they cauterize with burning tow, in others with cotton or moſs, in others with live coals; ſome uſe Spaniſh wax, others pyramidal pieces of linen, others gold or ſilver; Severinus recommends flame blown through a pipe; but what is uſually preferred among us is a hot iron.

Cauteriaing irons are of various figures; ſome flat, others round, ſome curved, &c. of all which we find draughts in Albucaſis, Scultetus, Ferrara, and others. Sometimes a cautery is applied through a capſula, to prevent any terror from the ſight of it. This method was invented by Placentinus, and is deſcribed by Scultetus. In the uſe of all cauteries, care is to be taken to defend the neighbouring parts, either by a lamina, defenſive plaſter, or lint moiſtened in oxycrate. Sometimes the hot iron is tranſmitted through a copper cannula, for the greater ſafety of the adjoining parts. The degrees and manners of cauterizing are varied according to the nature of the diſeaſe and the part affected.

CAUTERY, in ſurgery, a medicine for burning, eating, or corroding any ſolid part of the body.

Cauteries are diſtinguiſhed into two claſſes; actual and potential: by actual cauteries are underſtood red hot inſtruments, uſually of iron; and by potential cauteries are underſtood certain kinds of corroding medicines. See Pharmacy.

CAUTION, in the civil and Scots law, denotes much the ſame with what, in the law of England, is called Bail.

CAUTIONER, in Scots law, that perſon who becomes bound for another to the performance of any deed or obligation. As to the different kinds and effects of Cautionry, ſee Law, Part III. N° clxxv. 19.

CAWK. See Caux.

CAXA, a little coin made of lead mixed with ſome ſooria

Caramalca || Cayenne.

ſcoria of copper, ſtruck in China, but current chiefly at Bantam in the iſland of Java, and ſome of the neighbouring iſlands. See (the *Table* ſubjoined to) MONEY.

CAXAMALCA, the name of a town and diſtrict of Peru in South America, where there was a moſt ſumptuous palace belonging to the Incas, and a magnificent temple dedicated to the ſun.

CAXTON (William), a mercer of London, eminent by the works he publiſhed, and for being *reputed* the firſt who introduced and practiſed the art of printing in England: as to which, ſee (*the Hiſtory of*) PRINTING.

CAYENNE, a rich town and iſland of South America, and capital of the French ſettlements there, is bounded on the north by the Dutch colonies of Surinam, and ſituated in W. Long. 53. 10. N. Lat. 50.

This ſettlement was begun in 1635. A report had prevailed for ſome time before, that, in the interior parts of Guiana, there was a country known by the name of *del Dorado*, which contained immenſe riches in gold and precious ſtones; more than ever Cortez and Pizarro had found in Mexico and Peru; and this fable had fired the imagination of every nation in Europe It is ſuppoſed that this was the country in queſt of which Sir Walter Raleigh went on his laſt voyage; and, as the French were not behind their neighbours in their endeavours to find out ſo deſirable a country, ſome attempts, for this purpoſe, were likewiſe made by that nation much about the ſame time; which at laſt coming to nothing, the adventurers took up their reſidence on the iſland of Cayenne. In 1643, ſome merchants of Rouen united their ſtock, with a deſign to ſupport the new colony; but, committing their affairs to one Poncet de Bretigny, a man of a ferocious diſpoſition, he declared war both againſt the coloniſts and ſavages, in conſequence of which he was ſoon maſſacred. This cataſtrophe entirely extinguiſhed the ardour of theſe aſſociates; and in 1651 a new company was eſtabliſhed. This promiſed to be much more conſiderable than the former; and they ſet out with ſuch a capital as enabled them to collect 700 or 800 coloniſts in the city of Paris itſelf. Theſe embarked on the Seine, in order to ſail down to Havre de Grace; but unfortunately the Abbé de Marivault, a man of great virtue, and the principal promoter of the undertaking, was drowned as he was ſtepping into his boat. Another gentleman, who was to have acted as general, was aſſaſſinated on his paſſage; and 12 of the principal adventurers, who had promiſed to put the colony into a flouriſhing ſituation, not only were the principal perpetrators of this fact, but uniformly behaved in the ſame atrocious manner. At laſt they hanged one of their own number; two died; three were baniſhed to a deſert iſland; and the reſt abandoned themſelves to every kind of exceſs. The commandant of the citadel deſerted to the Dutch with part of his garriſon. The ſavages, rouſed by numberleſs provocations, fell upon the remainder; ſo that the few who were left thought themſelves happy in eſcaping to the Leeward Iſlands in a boat and two canoes, abandoning the fort, ammunition, arms, and merchandiſe, fifteen months after they had landed on the iſland.

In 1663, a new company was formed, whoſe capital amounted only to L. 8750 By the aſſiſtance of the miniſtry they expelled the Dutch, who had taken poſ-

Cayenne, Caylus.

ſeſſion of the iſland, and ſettled themſelves much more comfortably than their predeceſſors. In 1667 the iſland was taken by the Engliſh, and in 1676 by the Dutch, but afterwards reſtored to the French; and ſince that time it has never been attacked. Soon after ſome pirates, laden with the ſpoils they had gathered in the South Seas, came and fixed their reſidence at Cayenne; reſolving to employ the treaſures they had acquired in the cultivation of the lands. In 1688, Dueaſſe, an able ſeaman, arrived with ſome ſhips from France, and propoſed to them the plundering of Surinam. This propoſal exciting their natural turn for plunder, the pirates betook themſelves to their old trade, and almoſt all the reſt followed their example. The expedition, however, proved unfortunate. Many of the aſſailants were killed, and all the reſt taken priſoners and ſent to the Caribbee Iſlands. This loſs the colony has never yet recovered.

The iſland of Cayenne is about 16 leagues in circumference, and is only parted from the continent by two rivers. By a particular formation, uncommon in iſlands, the land is higheſt near the water ſide, and low in the middle. Hence the land is ſo full of moraſſes, that all communication between the different parts of it is impoſſible, without taking a great circuit. There are ſome ſmall tracts of an excellent ſoil to be found here and there; but the generality is dry, ſandy, and ſoon exhauſted. The only town in the colony is defended by a covert way, a large ditch, a very good mud rampart, and five baſtions. In the middle of the town is a pretty conſiderable eminence, of which a redoubt has been made that is called the *fort*. The entrance into the harbour is through a narrow channel; and ſhips can only get in at high water through the rocks and reefs that are ſcattered about this paſs.

The firſt produce of Cayenne was the arnotto; from the produce of which, the coloniſts proceeded to that of cotton, indigo, and laſtly ſugar. It was the firſt of all the French colonies that attempted to cultivate coffee. The coffee-tree was brought from Surinam in 1721, by ſome deſerters from Cayenne, who purchaſed their pardon by ſo doing. Ten or twelve years after they planted cocoa. In the year 1752, there were exported from Cayenne 260,541 pounds of arnotto, 80,363 pounds of ſugar, 17,919 pounds of cotton, 26,881 pounds of coffee, 91,916 pounds of cocoa, 618 trees for timber, and 104 planks.

CAYLUS (Count de), Marquis de Sternay, Baron de Branſac, was born at Paris in 1692. He was the eldeſt of the two ſons of John count de Caylus, lieutenant-general of the armies of the king of France, and of the Marchioneſs de Villete. The count and counteſs his father and mother, were very careful of the education of their ſon. The former inſtructed him in the profeſſion of arms, and in bodily exerciſes; the latter watched over and ſuſtered the virtues of his mind; and this delicate taſk ſhe diſcharged with ſingular ſucceſs. The counteſs was the niece of Madam de Maintenon, and was remarkable both for the ſolidity of her underſtanding and the charms of her wit. She was the author of that agreeable book intitled, "The Recollections of Madam de Caylus," of which Voltaire lately publiſhed an elegant edition. The amiable qualities of the mother appeared in the ſon; but they appeared with a bold and mi-

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Caylus. litary air. In his natural temper he was gay and ſprightly, had a taſte for pleaſure, a ſtrong paſſion for independence, and an invincible averſion to the ſervitude of a court. Such were the inſtructors of the Count de Caylus. He was only twelve years of age when his father died at Bruſſels in 1704. After finiſhing his exerciſes, he entered into the corps of the *Mouſquetaires*; and in his firſt campaign in the year 1709, he diſtinguiſhed himſelf by his valour in ſuch a manner, that Louis XIV. commended him before all the court, and rewarded him with an enſigncy in the *Gendarmerie*. In 1711 he commanded a regiment of dragoons, which was called by his own name; and he ſignalized himſelf at the head of it in Catalonia. In 1713, he was at the ſiege of Fribourg, where he was expoſed to imminent dangee in the bloody attack of the covered way. The peace of Raſtade having left him in a ſtate of inactivity ill-ſuited to his natural temper, his vivacity ſoon carried him to travel into Italy; and his curioſity was greatly excited by the wonders of that country, where antiquity is ſtill fruitful, and produces ſo many objects to improve taſte and to excite admiration. The eyes of the count were not yet learned; but he was ſtruck with the ſight of ſo many beauties, and ſoon became acquainted with them. After a year's abſence, he returned to Paris with ſo ſtrong a paſſion for travelling, and for antiquities, as induced him to quit the army.

He had no ſooner quitted the ſervice of Louis, than he fought for an opportunity to ſet out for the Levant. When he arrived at Smyrna, he viſited the ruins of Epheſus. From the Levant he was recalled in February 1717 by the tenderneſs of his mother. From that time he left not France, but to make two excurſions to London. The academy of painting and ſculpture adopted him an honorary member in the year 1731; and the count, who loved to realize titles, ſpared neither his labour, nor his credit, nor his fortune, to inſtruct, aſſiſt, and animate the artiſts. He wrote the lives of the moſt celebrated painters and engravers that have done honour to this illuſtrious academy; and, in order to extend the limits of the art, which ſeemed to him to move in too narrow a circle, he collected, in three different works, new ſubjects for the painter, which he had met with in the works of the ancients.

Such was his paſſion for antiquity, that he wiſhed to have had it in his power to bring the whole of it to life again. He ſaw with regret, that the works of the ancient painters, which have been diſcovered in our times, are effaced and deſtroyed almoſt as ſoon as they are drawn from the ſubterraneous manſions where they were buried. A fortunate accident furniſhed him with the means of ſhowing us the compoſition and the colouring of the pictures of ancient Rome. The coloured drawings which the famous Pietro Sante Bartoli had taken there from antique pictures, fell into his hands. He had them engraved; and, before he enriched the king of France's cabinet with them, he gave an edition of them at his own expence. It is perhaps the moſt extraordinary book of antiquities that ever will appear. The whole is painted with a purity and a preciſion that are inimitable: we ſee the livelineſs and the freſhneſs of the colouring that charmed the Cæſars. There were only 30 copies publiſhed; and there is no reaſon to expect that there will hereafter be any more. Caylus.

Count de Caylus was engaged at the ſame time in an enterpriſe ſtill more favourable to Roman grandeur, and more intereſting to the French nation. Colbert had framed the deſign of engraving the Roman antiquities that are ſtill to be ſeen in the ſouthern provinces of France. By his orders Mignard the architect had made drawings of them, which count de Caylus had the good fortune to recover. He reſolved to finiſh the work begun by Colbert, and to dedicate it to that great miniſter; and ſo much had he this enterpriſe at heart, that he was employed in it during his laſt illneſs, and warmly recommended it to M. Mariette.

In 1742, Count Caylus was admitted honorary member of the academy of belles lettres; and then it was that he ſeemed to have found the place for which nature deſigned him. The ſtudy of literature now became his ruling paſſion; he conſecrated to it his time and his fortune; he even renounced his pleaſures to give himſelf wholly up to that of making ſome diſcovery in the field of antiquity. But amidſt the fruits of his reſearch and invention, nothing ſeemed more flattering to him than his diſcovery of encauſtic painting. A deſcription of Pliny's, but too conciſe a one to give him a clear view of the matter, ſuggeſted the idea of it. He availed himſelf of the friendſhip and ſkill of M. Magault, a phyſician in Paris, and an excellent chemiſt; and by repeated experiments found out the ſecret of incorporating wax with divers tints and colours, and of making it obedient to the pencil. Pliny has made mention of two kinds of encauſtic painting practiſed by the ancients; one of which was performed with wax, and the other upon ivory, with hot punches of iron. It was the former that Count Caylus had the merit of reviving; and M. Muntz afterwards made many experiments to carry it to perfection.

In the hands of Count Caylus, literature and the arts lent each other a mutual aid. But it would be endleſs to give an account of all his works. He publiſhed above 40 diſſertations in the Memoirs of the Academy of Belles Lettres. The artiſts he was particularly attentive to; and to prevent their falling into miſtakes from an ignorance of coſtume, which the ableſt of them have ſometimes done, he founded a prize of 500 livres, the object of which is to explain, by means of authors and monuments, the uſages of ancient nations. In order that he might enjoy with the whole world the treaſures he had collected, he cauſed them to be engraved, and gave a learned deſcription of them in a work which he embelliſhed with 800 copperplates.

The ſtrength of his conſtitution ſeemed to give him hopes of a long life: but a humour ſettling in one of his legs, which entirely deſtroyed his health, he expired on the 5th of September 1765, and by his death his family is extinct. The tomb erected to the honour of Count Caylus is to be ſeen in the chapel of St Germain-l'Auxerrois, and deſerves to be remarked. It is perfectly the tomb of an antiquary. This monument was an ancient ſepulchral antique, of the moſt beautiful porphyry, with ornaments in the Egyptian taſte. From the moment he procured it, he had

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Cayſter ‖ Ceanothus.

had deſtined it to grace the place of his interment. While he availed the fatal hour, he placed it in his garden, where he uſed to look upon it with a tranquil but thoughtful eye, and pointed it out to the inſpection of his friends.

The character of Count Caylus is to be traced in the different occupations which divided his cares and his life. In ſociety, he had all the frankneſs of a ſoldier, and a politeneſs which had nothing in it of deceit or circumvention. Born independent, he applied to ſtudies which ſuited his taſte. His heart was yet better than his abilities. In his walks he uſed frequently to try the honeſty of the poor, by ſending them with a piece of money to get change for him. In theſe caſes he enjoyed their confuſion at not finding him; and then preſenting himſelf, uſed to commend their honeſty, and give them double the ſum. He ſaid frequently to his friends, "I have this day loſt a crown; but I was ſorry that I had not an opportunity of giving a ſecond. The beggar ought not to want integrity."

CAYSTER, or Caystrus, (anc. geog.), a river of Ionia, whoſe mouth Ptolemy places between Colophon and Epheſus; commended by the poets for its ſwans, which it had in great numbers. Its ſource was in the Montes Cilbiani, (Pliny). *Cayſtrius Campus* was a part of the territory of Epheſus. *Campi Cayſtriani* of Lydia, were plains lying in the middle between the inland parts and mount Tmolus.

CAZEROM, or Cazeron, a city of Aſia in Perſia, ſituated in E. Long. 70. N Lat. 29. 15.

CAZIC, or Cazique, a title given by the Spaniards to the petty kings, princes, and chiefs, of the ſeveral countries of America, excepting thoſe of Peru, which are called *curacas*. The French call them *caſiques*, a denomination which they always give to the Tartarian hords.—The cazics, in ſome places, do the office of phyſicians, and in others of prieſts, as well as of captains. The dignity of cazic among the Chiites, a people of South America, does not deſcend to children, but muſt be acquired by valour and merit. One of the prerogatives annexed to it is, that the cazic may have three wives, while the other people are allowed only one. Mexico comprehended a great number of provinces and iſlands, which were governed by lords called *caziques*, dependent on and tributary to the emperor. Thirty of theſe vaſſals are ſaid to have been ſo powerful, that they were able, each of them, to bring an army of 100,000 men into the field.

CAZIMIR, a handſome town of Poland, in the palatinate of Lublin, ſituated on a hill covered with trees, in E. Long. 3. 10. N. Lat. 51. 5.

CEA. See Ceos.

CEANOTHUS, New-Jerſey Tea, in botany; A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 47th order, *Dumoſæ*. There are five petals, pouched and arched. The fruit is a dry, trilocular and triſpermous berry. There are three ſpecies, of which the moſt remarkable is the Americanus, a native of moſt parts of North America, from whence great plenty of the ſeeds have been imported into Europe. In England, this plant ſeldom riſes more than three feet high. The ſtem, which is of a pale-brown colour, ſends out branches from the bottom. Theſe are thin, flexible, and of a reddiſh colour, which may have occaſioned this tree to go by the name of *Red Twig*. The leaves which ornament theſe branches ſtand on reddiſh pedicles, about half an inch in length. They are oval, ſerrated, pointed, about two inches and a half long, are proportionably broad, and have three nerves running lengthwiſe. From the footſtalk to the point they are of a light green colour, grow irregularly on the branches, and not oppoſite by pairs, as has been aſſerted. They are late in the ſpring before they ſhoot. The flowers grow at the ends of the twigs in cluſters: They are of a white colour, and when in blow give the ſhrub a moſt beautiful appearance. Indeed, it ſeems to be almoſt covered with them, as there is uſually a cluſter at the end of nearly every twig; and the leaves which appear among them ſerve as ornaments only, like myrtle in a diſtant noſegay: nature however has denied them ſmell. This tree will be in blow in July; and the flowers are ſucceeded by ſmall browniſh fruit, in which the ſeeds will ſometimes ripen in England.

Ceanothus ‖ Cecil.

This plant is propagated by layering; or from ſeeds ſown in pots of compoſt, conſiſting of two parts virgin earth well tempered and one part ſand, about a quarter of an inch deep; being equally careful to defend the young ſeedlings from an extremity of cold in winter, as from the parching droughts of the ſummer months. The beſt time of layering them is in the ſummer, juſt before they begin to flower: At that time lay the tender twigs of the ſpring ſhoots in the earth, and nip off the end which would produce the flowers. By the autumn twelvemonth ſome of them will be rooted. At the ſtools, however, the plants ſhould remain until the ſpring, when they ſhould be taken off, and the beſt rooted and the ſtrongeſt may be planted in the nurſery-way, or in a dry ſoil and well ſheltered place, where they are to remain; while the bad-rooted ones and the weakeſt ſhould be planted in pots; and if theſe are plunged into a moderate warmth of dung, it will promote their growth, and make them good plants before autumn. In the winter they ſhould be guarded againſt the froſts; and in the ſpring they may be planted out where they are to remain.

CEBES, of Thebes, a Socratic philoſopher, author of the admired *Table of Cebes*; or "Dialogues on the birth, life, and death of Mankind." He flouriſhed about 405 years before Chriſt.—The above piece is mentioned by ſome of the ancient writers, by Lucian, D. Laertius, Tertullian, and Suidas: but of Cebes himſelf we have no account, ſave that he is once mentioned by Plato, and once by Xenophon. The former ſays of him, in his "Phædo," that he was a ſagacious inveſtigator of truth, and never aſſented without the moſt convincing reaſons: the latter, in his "Memorabilia," ranks him among the few intimates of Socrates, who excelled the reſt in the innocency of their lives. Cebes's *Tabula* is uſually printed with Epictetus's *Manuale*.

CECIL (William), Lord Burleigh, treaſurer of England in the reign of queen Elizabeth, was the ſon of Richard Cecil, Eſq; maſter of the robes to king Henry VIII. He was born in the houſe of his grandfather, David Cecil, Eſq; at Bourn in Lincolnſhire, in the year 1520; and received the rudiments of his education in the grammar-ſchool at Grantham. From

Cecil. thence he was removed to Stamford; and about the year 1535, was entered of St John's College, Cambridge. Here he began his ſtudies with a degree of enthuſiaſtic applicatinn very uncommon in young gentlemen of family. At the age of 16 he read a ſophiſtry lecture, and at 19 a voluntary Greek lecture; which was the more extraordinary as being at a time when the Greek language was by no means univerſally underſtood. In 1541 he went to London, and became a member of the ſociety of Gray's-Inn, with an intention to ſtudy the law; but he had not been long in that ſituation, before an accident introduced him to king Henry, and gave a new bias to his purſuits. O'Neil, a famous Iriſh chief, coming to court, had brought with him two Iriſh chaplains, violent bigots to the Romiſh faith; with theſe Mr Cecil, viſiting his father, happened to have a warm diſpute in Latin, in which he diſplayed uncommon abilities. The king, being informed of it, ordered the young man into his preſence, and was ſo pleaſed with his converſation, that he commanded his father to find a place for him. He accordingly requeſted the reverſion of the *cuſtos brevium*, which Mr Cecil afterwards poſſeſſed. About this time he married the ſiſter of Sir John Cheke, by whom he was recommended to the earl of Hertford, afterwards duke of Somerſet and protector.

Soon after king Edward's acceſſion, Mr Cecil came into the poſſeſſion of his office of *cuſtos brevium*, worth about L. 240 a-year. His firſt lady dying in 1543, he married the daughter of Sir Anthony Cook, director of the king's ſtudies. In 1547, he was appointed by the protector, maſter of requeſts; and ſoon after, attended his noble patron on his expedition againſt the Scots, and was preſent at the battle of Muſſelburgh. In this battle, which was fought on the 10th of September 1547, Mr Cecil's life was miraculouſly preſerved by a friend, who in puſhing him out of the level of a cannon, had his arm ſhattered to pieces. The ſight and judgment of his friend muſt have been as extraordinary as his friendſhip, to perceive the preciſe direction of a cannon ſhot; unleſs we ſuppoſe, that the ball was almoſt quite ſpent; in which caſe the thing is not impoſſible. The ſtory is told in his life by a domeſtic. In the year 1548, Mr Cecil was made ſecretary of ſtate; but in the following year, the duke of Northumberland's faction prevailing, he ſuffered in the diſgrace of the protector Somerſet, and was ſent priſoner to the Tower. After three months confinement he was releaſed; in 1551 reſtored to his office; and ſoon after knighted, and ſworn of the privy council. In 1553 he was made chancellor of the Order of the Garter, with an annual fee of 100 merks.

On the death of Edward VI. Mr Cecil prudently refuſed to have any concern in Northumberland's attempt in favour of the unfortunate Lady Jane Grey; and when queen Mary acceded to the throne, he was graciouſly received at Court; but, not chooſing to change his religion, was diſmiſſed from his employments. During this reign, he was twice elected knight of the ſhire for the county of Lincoln; and often ſpoke in the houſe of commons, with great freedom and firmneſs, in oppoſition to the miniſtry. Nevertheleſs, though a proteſtant and a *patriot* (that is, a courtier out of place), he had the addreſs to ſteer through a very dangerous ſea without ſhipwreck. Cecil.

Queen Elizabeth's acceſſion in the year 1558 immediately diſpelled the cloud which had obſcured his fortunes and miniſterial capacity. During the horrid reign of her ſiſter, he had conſtantly correſponded with the princeſs Elizabeth. On the very day of her acceſſion, he preſented her with a paper containing twelve articles neceſſary for her immediate diſpatch; and, in a few days after, was ſworn of the privy-council, and made ſecretary of ſtate. His firſt advice to the queen was, to call a parliament; and the firſt buſineſs he propoſed after it was aſſembled, was the eſtabliſhment of a national church. A plan of reformation was accordingly drawn up under his immediate inſpection, and the legal eſtabliſhment of the church of England was the conſequence. Sir William Cecil's next important concern, was to reſtore the value of the coin, which had in the preceding reigns been conſiderably debaſed. In 1561, he was appointed maſter of the wards; and, in 1571, created baron of Burleigh, as a reward for his ſervices, particularly in having lately ſtifled a formidable rebellion in the north. The following year he was honoured with the garter, and raiſed to the office of Lord High Treaſurer of England. From this period we find him the *primum mobile* of every material tranſaction during the glorious reign of Queen Elizabeth. Notwithſtanding the temporary influence of other favourites, Lord Burleigh was, in fact, her prime miniſter, and the perſon in whom ſhe chiefly confided in matters of real importance. Having filled the higheſt and moſt important offices of the ſtate for 40 years, and guided the helm of government during the moſt glorious period of Engliſh hiſtory, he departed this life on the 4th of Auguſt 1598, in the 78th year of his age. His body was removed to Stamford, and there depoſited in the family vault, where a magnificent tomb was erected to his memory.—Notwithſtanding his long enjoyment of ſuch lucrative employments, he left only an eſtate of L. 4000 *per annum*, L. 11,000 in money, and effects worth about L. 14,000. He lived, indeed, in a manner ſuitable to his high rank and importance. He had four places of reſidence, viz. his lodgings at court, his houſe in the Strand, his ſeat at Burleigh-Park near Stamford, and his ſeat at Theobalds. The laſt of theſe was his favourite place of retirement, where he frequently entertained the queen at a vaſt expence.

Lord Burleigh was doubtleſs a man of ſingular abilities and prudence; amiable in his private character, and one of the moſt able, upright, and indefatigable miniſters ever recorded in the annals of this kingdom. His principal works are, 1. *La Complainte de l'ame pechereſſe*, or the Complaint of a ſinful Soul, in French verſe, in the king's library. 2. Materials for Patten's *Diarium exped. Scotiæ*, London 1541, 12mo. 3. Slanders and lies maliciouſly, groſsly, and impudently vomited out, in certain traiterous books and pamphlets, againſt two counſellors, Sir Francis Bacon and Sir William Cecil. 4. A ſpeech in parliament, 1562, Strype's Mem. vol. iv. p. 107. 5. Precepts or directions for the well ordering of a man's life, 1637, Harl. Cat. vol. ii. p. 755. 6. Meditations on the death of his lady, Ballard's Mem. p. 184. 7. Meditations

Cecilia. Meditations on the ſtate of England during the reign of queen Elizabeth, manuſcript. 8. The execution of juſtice in England for the maintenance of publie and Chriſtian peace, &c. Lond. 1581, 1583, Somer's tracts, 4th collect. vol. i. p. 5. 9. Advice to queen Elizabeth in matters of religion and ſtate, ih p. 101. 16. 10. A great number of letters. See Peck's *Deſiderata Curioſa*, Howard's collections, &c. 11. Several pedigrees, ſome of which are preſerved in the archbiſhop of Canterbury's library at Lambeth, n° 299, 747.

CECILIA (St), the patroneſs of muſic, has been honoured as a martyr ever ſince the fifth century. Her ſtory as delivered hy the notaries of the Roman church, and from them tranſcribed into the Golden Legend and other books of the like kind, ſays, that ſhe was a Roman lady born of noble parents, about the year 225. That, notwithſtanding ſhe had been converted to Chriſtianity, her parents married her to a young pagan nobleman named Valerianus; who going to bed to her on the wedding night, *as the cuſtom is*, ſays the huok, was given to underſtand by his ſpouſe, that ſhe was nightly viſited hy an angel, and that he muſt forbear to approach her, otherwiſe the angel would deſtroy him. Valerianus, ſomewhat troubled at theſe words, deſired that he might ſee his rival the angel; hut his ſpouſe told him that was impoſſihle, unleſs he would conſent to he haptized and become a Chriſtian. This he conſented to; after whieh, returning to his wife, he found her in her cloſet at prayer, and hy her ſide, in the ſhape of a heautiful young man, the angel clothed with brightneſs. After ſome converſation with the angel, Valerianus told him that he had a brother named Tihurtius, whom he greatly wiſhed to ſee a partaker of the grace which he himſelf had received. The angel told him that his deſire was granted, and that they ſhould he both erowned with martyrdom in a ſhort time. Upon this the angel vaniſhed, and was not long in ſhowing himſelf as good as his word; Tihurtius was converted, and both he and his brother Valerianus were beheaded. Cecilia was offered her life upon condition that ſhe would ſacrifice to the deities of the Romans; but ſhe refuſed: upon which ſhe was thrown into a caldron of boiling water, and ſealded to death: others ſay that ſhe was ſtifled in a dry bath, i. e. an incloſure, from whence the air was excluded, having a ſlow fire underneath it; whieh kind of death was ſometimes inflicted hy the Romans upon women of quality who were criminals. Upon the ſpot where her houſe ſtood, is a church ſaid to have heen huilt by pope Urban I. who adminiſtered haptiſm to her huſband and his hrother: it is the church of St Cecilia at Traſtevere; within is a moſt curious paiating of the ſaint, as alſo a ſtately monument with a eumbent ſtatue of her with her face downwards. There is a tradition of St Cecilia, that ſhe excelled in muſic; aud that the angel who was thus enamoured of her, was drawn from the celeſtial regions hy the charms of her melody: this has been deemed authority ſufficient for making her the patroneſs of muſic and muſicians. The legend of St Cecilia has given frequent occaſion to painters and ſculptors to exerciſe their genius in repreſentations of her, playing on the organ, and ſometimes on the harp. Raphael has painted her ſinging with a regal in her hands; and Domenichino and Mignard, Ceerops ‖ Celænæ. ſinging and playing on the harp.

CECROPS, the founder and firſt king of Athens, about the time of Moſes the lawgiver of the Hebrews. He was the firſt who eſtabliſhed eivil government, religious rites, and marriage among the Greeks; and died after a reign of 50 years. See ATTICA, n° 4.

CEDAR, in botany. See JUNIPERUS and PINUS.

The ſpecies of cedar famous for its duration, is that popularly called hy us the cedar of Lehanon (Pinus cedrus), hy the ancients *cedrus magna*, or the great cedar; alſo *cedrelate*, κεδρελατε. See the artiele PINUS.

CEDRENUS (George), a Grecian monk, lived in the 11th age, and wrote "Annals, or an abridged Hiſtory, from the Beginning of the World to the Reign of Iſaac Comnenus emperor of Conſtantinople, who ſueceeded Michael IV. in 1057. This work is no more than an extract from ſeveral hiſtorians. There is an edition of it, printed at Paris in 1647, with the Latin verſion of Xylander, and the notes of father Goar a Dominican.

CEDRUS, the CEDAR-TREE, MAHOGANY, &c. See JUNIPERUS, PINUS, and SWIETENIA.

CEILING, in architecture, the top or roof of a lower room; or a covering of plaſter, over laths nailed on the bottom of the joiſts that bear the floor of the upper room; or where there is no upper room, on joiſts for the purpoſe; henee called *ceiling joiſts*. The word *ceiling* anſwers pretty accurately to the Latin *lacunar*, "every thing over head."

Plaſtered ceiling, are much uſed in Britain, more than in any other country: nor are they without their advantages, as they make the room lightſome; are good in caſe of fire; ſtop the paſſage of the duſt; leſſen the noiſe over head; and, in ſummer, make the air cooler.

CEILING, in ſea-language, denotes the inſide planks of a ſhip.

CEIMELIA, from κειμαι, "to be laid up," in antiquity, denotes choice or preeious pieces of furniture or ornaments, reſerved or laid up for extraordinary occaſions and uſes; in which ſenſe, ſacred garments, veſſels, and the like, are reputed of the ceimelia of a church. Medals, antique ſtones, figures, manuſcripts, records, &c. are the ceimelia of men of letters.

CEIMELIARCHIUM, the repoſitory or place where ceimelia are preſerved.

CEIMELIOPHYLAX, (from κειμηλιον and φυλαξω, *I keep*), the keeper or curator of a collection of ceimelia; ſometimes alſo denominated *ceimeliarcha*. The ceimeliarcha, or ceimeliophylax, was an officer in the ancient churches or monaſteries, anſwering to what was otherwiſe denominated *chartophylax*, and *cuſtos archivorum*.

CELÆNÆ (anc. geog.), the capital of Phrygia Magna, ſituated on a cognominal mountain, at the common ſources of the Mæander and Marſyas. The king of Perſia had a ſtrong palace beneath the citadel, by the ſprings of the Marſyas, which roſe in the market-place, not leſs in ſize than the Mæander, and flowed through the city. Cyrus the younger had alſo a palace there, but by the ſprings of the Mæander, which river paſſed likewiſe through the city. He

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Celandine || Celaſtrus.

had, moreover, an extenſive paradiſe or park, full of wild beaſts, which he hunted on horſeback for exerciſe or amuſement; and watered by the Mæander, which ran through the middle. Xerxes was ſaid to have built theſe palaces and the citadel after his return from his expedition into Greece.

Antiochus Soter removed the inhabitants of Celænæ into a city, which he named from his mother, Apamea; and which became afterwards a mart inferior only to Epheſus. See APAMEA.

CELANDINE, in botany. See CHELIDONIUM.

CELANO, a town of Italy, in the kingdom of Naples, in Further Abruzzo. It is ſeated a mile from the lake Celano, anciently called FUCINUS. E. Lon. 13. 39. N. Lat. 41. 56.

CELARENT, among logicians, a mode of ſyllogiſm, wherein the major and concluſion are univerſal negative propoſitions, and the minor an univerſal affirmative.

E. gr. cE None whoſe underſtanding is limited can be omniſcient.

lA Every man's underſtanding is limited.

rEnt Therefore no man is omniſcient.

CELASTRUS, in botany: A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 43d order, *Dumoſæ*. The corolla is pentapetalous and patent; the capſule quinquangular and trilocular; the ſeeds veiled. There are 11 ſpecies; two of which are enured to our climate.

1. The bullatus, an uncertain deciduous ſhrub, is a native of Virginia. It is about four feet in growth, riſing from the ground with ſeveral ſtalks, which divide into many branches, and are covered with a brownish bark. The leaves are of a fine green colour, and grow alternately on the branches. They are of an oval figure, and have their edges undivided. The flowers are produced in July, at the ends of the branches, in looſe ſpikes. They are of a white colour, and in their native countries are ſucceeded by very ornamental ſcarlet fruit; but with us this ſeldom happens. It is eaſily propagated from ſeeds ſown, about an inch deep, in beds of good freſh mould made fine. They ſeldom come up until the ſecond, and ſometimes not before the third ſpring. It is alſo propagated by layers; which work muſt be performed on the young wood, in the autumn, by a ſlit at the joint. Theſe layers may be expected to ſtrike root by the autumn following; when they may be taken up and planted in the nurſery-ground. This ſhrub muſt have a well-ſheltered ſituation, otherwiſe the leaves are apt to fall off at the approach of froſty weather. And Millar ſays, that, growing naturally in moiſt places, it will not thrive well in a dry ſoil.

2. The ſcandens, or baſtard euonymus, with woody, twining ſtalks, riſing by the help of neighbouring trees or buſhes to the height of 12 feet. The leaves are oblong, ſerrated, of a pleaſant green colour, pale, and veined underneath, and grow alternately on the branches. The flowers are produced in ſmall bunches, from the ſides of the branches, near the ends. They are of a greeniſh colour, appear in June; and are ſucceeded by roundiſh, red, three-cornered capſules, containing ripe ſeeds, in the autumn. This ſpecies is exceeding hardy, and makes a beautiful appearance among other trees in the autumn, by their beautiful red berries, which much reſemble thoſe of the Spindle-tree, and will be produced in vaſt profuſion on the tops of other trees, to the height of which theſe plants by their twiſting property aſpire. They ſhould not be planted near weak or tender trees, to climb on; for they embrace the ſtalks ſo cloſely as to bring on death to any but the hardieſt trees and ſhrubs. It is propagated, 1. By laying down the young ſhoots in the ſpring. By the autumn they will have ſtruck root, and may then be taken off and ſet in the places where they are deſigned to remain. 2. By ſeeds; which ſhould be ſoon ſown after they are ripe, otherwiſe they will be two and ſometimes three years before they come up. When they make their appearance, nothing more need be done than keeping them clear from weeds all ſummer and the winter following; and in the ſpring the ſtrongeſt plants may be drawn out, and ſet in the nurſery for a year, and then removed to the places where they are deſigned to remain; whilſt the weakeſt, being left in the ſeed-bed one year more, may undergo the ſame diſcipline. Celaſtrus, Celebes.

In Senegal the negroes uſe the powder of the root as a ſpecific againſt gonorrhœas, which it is ſaid to cure in eight or ſometimes in three days. An infuſion of the bark of a ſpecies of ſtaff-tree, which grows in the Iſle of France, is ſaid to poſſeſs the ſame virtues.

CELEBES, an iſland in the Indian ſea, ſeated under the equator, and called by ſome *Macaſſar*. The length and breadth has not been accurately computed; but the circumference, at a medium, is about 800 miles. It had formerly ſix kingdoms, which are reduced to one. The air is hot and moiſt; and ſubject to great rains during the north-weſt winds, which blow from November to March, at which time the country is overflowed, and for this reaſon they build their houſes on piles of wood 10 feet high. The moſt healthful time is during the northern monſoons, which ſeldom fail blowing regularly in one part of the year. The chief vegetables are rice and cocoas; but they have ebony, ſanders, &c. Their fruits and flowers are much the ſame as in the neighbouring parts of the Indies. They have pepper, ſugar, betel, areca, the fineſt cotton, and opium. The natives have bright olive complections, and the women have ſhining black hair. They are thought to be very handſome by the Dutch and Chineſe, who often purchaſe them for bedfellows. The men are induſtrious, robuſt, and make excellent ſoldiers. Their arms are ſabres, and trunks, from whence they blow poiſoned darts, which are poioted with the tooth of a ſea-fiſh. Some likewiſe uſe poiſoned daggers. They were the laſt of the Indian nations that were enſlaved by the Dutch, which could not be effected till after a long war. They teach their children to read and write, and their characters have ſome reſemblance of the Arabic. Their religion being Mahometan, the men indulge themſelves in many wives and concubines. The employment of the women is ſpinning, cookery, and making their own and their huſbands cloaths. The men wear jewels in their ears, and the women gold chains about their necks. The inhabitants in general go half naked, without any thing on their head, legs, or feet, and ſome have nothing but a cloth about their middle. The ſtreets of

Celeres, Celeri.

the town Macaſſar are ſpacious, and planted with trees on every ſide. It ſtands by the ſide of the only large river they have in the iſland. The Dutch have a fort here, mounted with 40 guns, and garriſoned with 700 men. There is only one other town of note, called Jampandam, where they alſo have a fort. The iſland is not near ſo populous as when the Dutch conquered it; the men being hired for ſoldiers in moſt of the neighbouring countries.

The religion of theſe iſlands was formerly idolatry. They worſhipped the ſun and moon. They ſacrificed to them in the public ſquares, having no materials which they thought valuable enough to be employed in raiſing temples. About two centuries ago, ſome Chriſtians and Mahometans having brought their opinions to Celebes, the principal king of the country took a diſlike to the national worſhip. Having convened a general aſſembly, he aſcended an eminence, when, ſpreading out his hands towards heaven, he told the Deity, that he would acknowledge for truth that doctrine whoſe miniſters ſhould firſt arrive in his dominions, and, as the winds and waves were at his command, the Almighty would have himſelf to blame if he embraced a falſehood. The aſſembly broke up, determined to wait the orders of heaven, and to obey the firſt miſſionaries that ſhould arrive. The mahometans were the moſt active, and their religion accordingly prevailed.

CELERES, in Roman antiquity, a regiment of body-guards belonging to the Roman kings, eſtabliſhed by Romulus, and compoſed of 300 young men, choſen out of the moſt illuſtrious Roman families, and approved by the ſuffrages of the curiæ of the people, each of which furniſhed ten. The name comes from *celer*, "quick, ready;" and was given them becauſe of their promptneſs to obey the king.

The celeres always attended near the king's perſon, to guard him, to be ready to carry his orders, and to execute them. In war, they made the van-guard in the engagement, which they always began firſt; in retreats, they made the rear-guard.

Though the celeres were a body of horſe, yet they uſually diſmounted, and fought on foot; their commander was called tribune, or preſect of the celeres. They were divided into three troops, of 100 each, commanded by a captain called centurio: their tribune was the ſecond perſon in the kingdom.

Plutarch ſays, Numa broke the celeres; if this be true, they were ſoon re-eſtabliſhed; for we find them under moſt of the ſucceeding kings: witneſs the great Brutus, who expelled the Tarquins, and who was the tribune of the celeres.

CELERI, in botany, the Engliſh name of a variety of the APIUM GRAVEOLENS.

The ſeed of celeri ſhould be ſown at two or three different times, the better to continue it for uſe thro' the whole ſeaſon without running up to ſeed. The firſt ſowing ſhould be in the beginning of March, upon a gentle hot-bed; the ſecond may be at the end of the ſame month, which ought to be in an open ſpot of light earth, where it may enjoy the benefit of the ſun; the third time of ſowing ſhould be in the latter end of April, or beginning of May, on a moiſt ſoil; and if expoſed to the morning-ſun only, it will be ſo much the better, but it ſhould not be under the drip of trees. The middle of May, ſome of the plants of the firſt ſowing will be fit to tranſplant for blanching. Celeri.

The manner of tranſplanting it is as follows: after having cleared the ground of weeds, you muſt dig a trench by a line about 10 inches wide, and 8 or 9 inches deep, looſening the earth in the bottom, and laying it level; and the earth that comes out of the trench ſhould be equally laid on each ſide the trench, to be ready to draw in again to earth the celeri as it advances in height. Theſe trenches ſhould be made at three feet diſtance from each other; then plant your plants in the middle of the trench, at about four or five inches diſtance, in one ſtraight row, having before trimmed the plants, and cut off the tops of the long leaves: and as they are planted, you muſt obſerve to cloſe the earth well to their roots with your feet, and to water them plentifully until they have taken new root. As theſe plants advance in height, you muſt obſerve to draw the earth on each ſide cloſe to them, being careful not to bury their hearts, nor ever to do it but in dry weather; otherwiſe the plants will rot. When your plants have advanced a conſiderable height above the trenches, and all the earth, which was laid on the ſides thereof, hath been employed in earthing them up, you muſt then make uſe of a ſpade to dig up the earth between the trenches, which muſt alſo be made uſe of for the ſame purpoſe, continuing from time to time to earth it up until it is fit for uſe. The laſt crop ſhould be planted in a drier ſoil, to prevent its being rotted with too much wet in the winter. You will do well to cover your ridges of celeri with ſome peaſe-haulm, or ſome ſuch light covering, when the froſt is very hard, which will admit the air to the plants; for if they are covered too cloſe, they will be very ſubject to rot: by this means you will preſerve your celeri till ſpring; but you muſt remember to take off the covering whenever the weather will permit, otherwiſe it will be apt to cauſe the celeri to pipe, and run to ſeed. The celeri, when full blanched, will not continue good above three weeks or a month before it will rot or pipe; therefore, in order to continue it good, you ſhould have, at leaſt, ſix or ſeven different ſeaſons of planting, proportioned to the conſumption.

The other ſort of celeri, which is commonly called celeriac, is to be managed in the ſame manner; excepting that this ſhould be planted on the level ground, or in very ſhallow drills: for this plant ſeldom grows above eight or ten inches high, ſo requires but little earthing up; the great excellency of this being in the ſize of the root, which is often as large as ordinary turnips.

The beſt method to ſave the ſeed of celeri, is to make choice of ſome long good roots of the upright celeri, which have not been too much blanched, and plant them out, at about a foot aſunder, in a moiſt ſoil, early in the ſpring; and when they run up to ſeed, keep them ſupported with ſtakes, to prevent their being broken down with the wind: and in July, when the ſeed begins to be formed, if the ſeaſon ſhould prove very dry, it will be proper to give ſome water to the plant, which will greatly help its producing good ſeeds. In Auguſt theſe ſeeds will be ripe, at which time it ſhould be cut up, in a dry time, and

ſpread

Celeri || Celetes

ſpread upon cloths in the ſun to dry; then beat out the ſeeds, and preſerve it in bags for uſe.

Celeri, wild, (*Apium antarcticum*), was found in conſiderable quantities by Mr Banks and Dr Solander, on the coaſt of Terra del Fuego. It is like the garden celeri in the colour and diſpoſition of the flowers, but the leaves are of a deeper green. The taſte is between that of celeri and parſley. It is a very uſeful ingredient in the ſoup for ſeamen, becauſe of its antiſcorbutic quality.

CELERITY, in mechanics, the ſwiftneſs of any body in motion. It is alſo defined to be an affection of motion, by which any moveable body runs through a given ſpace in a given time.

CELESTINS, a religious order ſo called from their founder Peter de Meuron, afterwards raiſed to the pontificate under the name of Celeſtin V. This Peter, who was born at Iſernia, a little town in the kingdom of Naples, in the year 1215, of but mean parents, retired, while very young, to a ſolitary mountain, in order to dedicate himſelf wholly to prayer and mortification. The fame of his piety brought ſeveral, out of curioſity, to ſee him; ſome of whom, charmed with his virtues, renounced the world to accompany him in his ſolitude. With theſe he formed a kind of community in the year 1254; which was approved by Pope Urban IV. in 1264, and erected into a diſtinct order, called the *hermits of St Damien*. Peter de Meuron governed this order till 1286, when his love of ſolitude and retirement induced him to quit the charge. In July 1294, the great reputation of his ſanctity raiſed him, though much againſt his will, to the pontificate. He then took the name of Celeſtin V. and his order that of *Celeſtins* from him. By his bull he approved their conſtitutions, and confirmed all their monaſteries to the number of 20. But he ſat too ſhort time in the chair of St Peter to do many great things for his order; for having governed the church five months and a few days, and conſidering the great burden he had taken upon him, to which he thought himſelf unequal, he ſolemnly renounced the pontificate in a conſiſtory held at Naples.

After his death, which happened in 1296, his order made great progreſs not only in Italy, but in France likewiſe; whither the then general Peter of Tivoli ſent 12 religious, at the requeſt of king Philip the Fair, who gave them two monaſteries; one in the foreſt of Orleans, and the other in the foreſt of Compeigne at mount Chartres. This order likewiſe paſſed into ſeveral provinces of Germany. They have about 96 convents in Italy, and 21 in France, under the title of priories.

The Celeſtins riſe two hours after midnight, to ſay matins. They eat no fleſh at any time, except when they are ſick. They faſt every Wedneſday and Friday, from Eaſter to the feaſt of the exaltation of the holy croſs; and, from that feaſt to Eaſter, every day. As to their habit, it conſiſts of a white gown, a capuche, and a black ſcapulary. In the choir, and when they go out of the monaſtery, they wear a black cowl with the capuche: their ſhirts are of ſerge.

CELETES, or Celetæ, (from κέλης, *a race-horſe*,) in antiquity, denote ſingle or ſaddle-horſes; by way of contradiſtinction from thoſe yoked or harneſſed together, called *bigarii, quadrigarii*, &c. The name denomination is alſo given to the cavaliers or riders on horſeback; and hence ſome deduce celeres, the name of Romulus's guard. Celeres || Celetæ

CELEUSMA, or Celeuma, in antiquity, the ſhout or cry of the ſeamen, whereby they animated each other in their work of rowing. The word is formed from κελεύω, *to call, to give the ſignal*.

Celeusma was alſo a kind of ſong or formula, rehearſed or played by the maſter, or others, to direct the ſtrokes and movements of the mariners, as well as to encourage them to labour. See Celeustes.

CELEUSTES, in ancient navigation, the boatſwain or officer appointed to give the rowers the ſignal, when they were to pull, and when to ſtop. He was alſo denominated *epopeus*, and by the Romans *portiſculus*; ſometimes ſimply *hortator*.

CELIBACY, the ſtate of unmarried perſons. Scaliger derives the word from the Greek κοίτη, "bed," and λείπω, *linquo*, "I leave:" others ſay it is formed from *cœli beatitudo*; q. d. *the bleſſedneſs of heaven*.

The ancient Romans uſed all means imaginable to diſcourage celibacy. Nothing was more uſual than for the cenſors to impoſe a fine on bachelors. Dionyſius Halicarnaſſeenſis mentions an ancient conſtitution whereby all perſons of full age were obliged to marry. But the firſt law of that kind, of which we have any certainty, is that under Auguſtus, called *lex Julia de maritandis ordinibus*. It was afterwards denominated *Papia Poppæa*, and more uſually *Julia Papia*, in regard of ſome new ſanction and amendments made to it under the conſuls Papius and Poppæus. By this law, divers prerogatives were given to perſons who had many children; penalties impoſed on thoſe who lived a ſingle life, as that they ſhould be incapable of receiving legacies, and not exceeding a certain proportion.

CELIBATE, the ſame with celibacy; but it is chiefly uſed in ſpeaking of the ſingle life of the Popiſh clergy, or the obligation they are under to abſtain from marriage. In this ſenſe we ſay the law of *celibate*. Monks and religious take a vow of celibate; and what is more, of chaſtity.

The church of Rome impoſes an univerſal celibacy on all its clergy, from the pope to the loweſt deacon and ſubdeacon. The advocates for this uſage pretend, that a vow of perpetual celibacy was required in the ancient church as a condition of ordination, even from the earlieſt apoſtolic ages. But the contrary is evident from numerous examples of biſhops and archbiſhops, who lived in a ſtate of matrimony, without any prejudice to their ordination or their function. It is generally agreed that moſt of the apoſtles were married. Some ſay all of them, except St Paul and St John. Others ſay St Paul himſelf was married, becauſe he writes to his *yoke-fellow*, whom they interpret his wife. Be this as it will, in the next ages after the apoſtles, we have accounts of divers married biſhops, preſbyters, and deacons, without any reproof or mark of diſhonour ſet on them; *e. g.* Valens, preſbyter of Philippi, mentioned by Polycarp; and Chæremon, biſhop of Nilus. Novatus was a married preſbyter of Carthage, as we learn from Cyprian; who himſelf was alſo a married man, as Pagi confeſſes; and ſo was Cæcilius the preſbyter who converted him; and Numidius another preſbyter of Carthage. The

Celibate || Cell.

reply which the Romaniſts give to this is, that all married perſons, when they came to be ordained, promiſed to lived ſeparate from their wives by conſent, which anſwered the vow of celibacy in other perſons. But thia is not only ſaid without proof, but againſt it. For Novatus preſbyter of Carthage, was certainly allowed to cohabit with his wife after ordination; as appears from the charge that Cyprian brings againſt him, that he had ſtruck and abuſed his wife, and thereby cauſed her to miſcarry. There ſeems indeed to have been, in ſome caſes, a tendency towards the introductinn of ſuch a law, by one or two zealots; hut the motion was no ſooner made, than it was quaſhed by the authority of wiſer men. Thus Euſebius obſerves, that Pinytus, biſhop of Gnoſſus in Crete, was for laying the law of celibacy upon his brethren; but Dionyſius biſhop of Corinth wrote to him, that he ſhould conſider the weakneſs of men, and not impoſe that heavy burden on them. In the council of Nice, *anno* 325, the motion was renewed for a law to oblige the clergy to abſtain from all conjugal ſociety with their wives, whom they had married before their ordination: but Paphnutius, a famous Egyptian biſhop, and one who himſelf never was married, vigorouſly declaimed againſt it, upon which it was unanimouſly rejected. So Socrates and Sodomen tell the ſtory; to which all that Valeſius, after Bellarmin, has to ſay, is, that he ſuſpects the truth of it. The council in Trullo, held in 692, made a difference in this reſpect between biſhops and preſbyters; allowing preſbyters, deacons, and all the inferior orders, to cohabit with their wives after ordination; and giving the Roman church a ſmart rebuke for the contrary prohibition, but at the ſame time laying an injunction upon biſhops to live ſeparate from their wives, and appointing the wives to betake themſelves to a monaſtic life, or become deaconeſſes in the church. And thus was a total celibate eſtabliſhed in the Greek church, as to biſhops, but not any others. In the Latin church, the like eſtabliſhment was alſo made, but by ſlow ſteps in many places. For in Africa, even biſhops themſelves cohabited with their wives at the time of the council of Trullo. The celibacy of the clergy, however, appears of an ancient ſtanding, if not of command and neceſſity, yet as of counſel and choice. But as it is clearly neither of divine nor apoſtolical inſtitution, it is, at firſt, hard to conceive from what motive the court of Rome perſiſted ſo very obſtinately to impoſe this inſtitution on the clergy. But we are to obſerve that this was a leading ſtep to the execution of the project formed of making the clergy independent of princes, and rendering them a ſeparate body to be governed by their own laws. In effect, while prieſts had children, it was very difficult to prevent their dependence on princes, whoſe favours have ſuch an influence on private men; but having no family, they were more at liberty to adhere to the Pope.

CELIDOGRAPHIA, the deſcription of the ſpots which appear on the ſurfaces of the ſun and planets. See ASTRONOMY, n° 58, &c.

CELL, CELLA, in ancient writers, denotes a place or apartment uſually under ground, and vaulted, in which were ſtored up ſome ſort of neceſſaries, as wine, honey, and the like; and according to which it was called *Cella Vinaria*, *Olearia*, *Mellaria*, &c. The word is formed from the Latin *celare*, to conceal.

Cella || Cellar.

CELLA was alſo uſed for the lodge or habitation of a common proſtitute, as being anciently under ground, hence alſo denominated *fornix*.

Intravit calidum veteri centone lupanar,
Et cellam vacuam. Juv. Sat. vi. ver. 121.

On which place an ancient ſcholiaſt remarks, that the names of the whores were written on the doors of their ſeveral cells; by which we learn the meaning of *inſcripta cella* in Martial, lib. xi. ep. 46.

CELLA was alſo applied to the bed-chambers of domeſtics and ſervants; probably as being low and narrow.—Cicero, inveighing againſt the luxury of Antony, ſays, the beds in the very cellæ of his ſervants were ſpread with pompous purple coverlets.

CELLA is alſo applied to the members or apartments of baths. Of theſe there were three principal, called *frigidaria*, *tepidaria*, and *caldaria*; to which may be added a fourth, called *cella aſſa*, and ſometimes *ſudatoria*.

CELLA likewiſe ſignified the *adyta*, or inmoſt and moſt retired parts of temples, wherein the images of the gods to whom the edifices were conſecrated were preſerved. In this ſenſe we meet with *cella Jovis*, *cella Concordiæ*, &c.

CELL is alſo uſed for a leſſer or ſubordinate ſort of miniſter dependent on a great one, by which it was erected, and continues ſtill to be governed. The great abbeys in England had moſt of them *cells* in places diſtant from the mother abbey, to which they were accountable, and from which they received their ſuperiors. The alien priories in England were cells to abbeys in Normandy, France, Italy, &c. The name *cell* was alſo given to rich and conſiderable monaſteries not dependent on any other.

CELL ſignifies alſo a little apartment or chamber, ſuch as thoſe wherein the ancient monks, ſolitaries, and hermits, lived in retirement. Some derive the word from the Hebrew חצר, *i. e.* "a priſon, or place where any thing is ſhut up."

The ſame name is ſtill retained in divers monaſteries. The dormitory is frequently divided into ſo many cells or lodges. The Carthuſians have each a ſeparate houſe, which ſerves them as a cell. The hall wherein the Roman conclave is held, is divided, by partitions, into divers cells, for the ſeveral cardinals to lodge in.

CELL is alſo a name given to the little diviſions in honey-combs, which are always regular hexagons. See BEE.

CELL, in botany, is applied to the hollow places between the partitions in the pods, huſks, and other ſeed-veſſels of plants; according as there is one, two, three, &c. of theſe cells, the veſſel is ſaid to be unilocular, bilocular, trilocular, &c.

CELLS, in anatomy, little bags, or bladders, where fluids or other matters are lodged; called *loculi*, *cellulæ*, &c. Thus the *cellulæ adipoſæ* are the little cells where the fat is contained; *cellulæ* in the *colon*, are ſpaces wherein the excrements are detained till voided, &c.

CELLAR (*Cellarium*), in ancient writers, denotes the ſame with cella, viz. a conſervatory of eatables, or drinkables.

Cellar || Cellini.

Cellar differs from vault, as the latter is ſuppoſed to be deeper, the former being frequently little below the ſurface of the ground. In which ſenſe, *cellarium* only differed from *penus*, as the former was only a ſtore-houſe for ſeveral days, the latter for a long time. Thus it is, the bactroperatæ, a ſort of ancient Cynics, are ſaid by St Jerome to carry cellar about with them.

Cellarium alſo denoted an allowance of bread, wine, oil, or other proviſion, furniſhed out of the cells, to the uſe of the governor of the province and his officers, &c. In which ſenſe, the word amounts to much the ſame with *annona*.

Cellars, in modern building, are the loweſt rooms in a houſe, the ceilings of which uſually lie level with the ſurface of the ground on which the houſe is built; or they are ſituated under the pavement before the houſe, eſpecially in ſtreets and ſquares.

Cellars, and other places vaulted under ground, were called by the Greeks *hypogea*: the Italians ſtill call them *ſanti delle caſe*.

CELLARER, or Cellaria, (*Cellerarius* or *Cellarius*), an officer in monaſteries, to whom belong the care and procurement of proviſions for the convent. The denomination is ſaid to be borrowed from the Roman law, where *cellarius* denotes an examiner of accounts and expences. Ulpian defines it thus: "Cellerarius, id eſt, ideo præpoſitus ut rationes ſalvæ ſint."

The *cellerarius* was one of the four *obedientiarii*, or great officers of monaſteries: under his ordering was the *piſtrinum* or bakehouſe, and the *bracinum*, or brewhouſe. In the richer houſes there were particular lands ſet apart for the maintenance of his office, called in ancient writings *ad cibum monachorum*. The *cellerarius* was a great man in the convent. His whole office in ancient times had a reſpect to that origin: he was to ſee his lord's corn got in, and laid up in granaries; and his appointment conſiſted in a certain proportion thereof, uſually ſixed at a thirteenth part of the whole together with a furred gown. The office of cellarer then only differed in name from thoſe of bailiff and miniſtrel; excepting that the cellarer had the receipt of his lord's rents through the whole extent of his juriſdiction.

Cellarer was alſo an officer in chapters, to whom belonged the care of the temporals, and particularly the diſtributing of bread, wine, and money to canons, on account of their attendance in the choir. In ſome places he was called *cellarer*, in others *burſer*, and in others *currier*.

CELLARIUS (Chriſtopher), was born in 1638, at Smalcade in Franconia, of which town his father was miniſter. He was ſucceſſively rector of the colleges at Weymar, Zeits, and Merſbourg; and the king of Pruſſia having founded an univerſity at Hall in 1693, he was prevailed on to be profeſſor of eloquence and hiſtory there, where he compoſed the greateſt part of his works. His great application to ſtudy haſtened the infirmities of old age; for it is ſaid, he would ſpend whole days and nights together at his books, without any attention to his health, or even the calls of nature. His works relate to grammar, geography, hiſtory, and the oriental languages, and the number of them is amazing. He died in 1707.

CELLINI (Benvenuto), an eminent ſtatuary, who was bred a jeweller and goldſmith, but ſeems to have had an extraordinary genius for the fine arts in general. He was cotemporary with Michael Angelo, and Julio Romano, and was employed by popes, kings, and other princely patrons of ſciences and arts, ſo highly cultivated in the days of Leo X. and Charles V. ſome of his productions being eſteemed moſt exquiſite. He lived to a very conſiderable old age; and his life, almoſt to the laſt, was a continued ſcene of adventure, perſecution, and misfortune, truly wonderful. He wrote his own hiſtory, which was not, however, publiſhed till the year 1730, probably on account of the exceſſive freedom with which he therein treated many diſtinguiſhed perſonages of Italy and other countries. It was tranſlated into Engliſh by Dr Nugent in 1771, to which the reader is referred, as it will not admit of an abridgement ſuitable to the deſign of this work.

Cellini || Celſus.

CELLULAR, in a general ſenſe, is applied to any thing conſiſting of ſingle cells.

Cellular *Membrane*. See Anatomy, n° 83 *et ſeq.*

CELOSIA, cocks-comb: A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 54th order, *Miſcellaneæ*. The calyx is triphyllous; the corolla is five-petalled in appearance; the ſtamina are conjoined at the baſe to the plaited nectarium; the capſule gaping horizontally. There are eight ſpecies, of which the moſt worthy of notice is the *criſtata*, or common cock's-comb, ſo called on account of its creſted head of flowers, reſembling a cock's comb; of theſe there are a great variety of ſpecies. The principal colours of their flowers are red, purple, yellow, and white; but there are ſome whoſe heads are variegated with two or three colours. The heads are ſometimes divided like a plume of feathers, and are of a beautiful ſcarlet colour. Theſe plants are very tender exotics, and require a great deal of care to cultivate them in this country. Three hot-beds muſt be prepared; a ſmall one in March, on which to raiſe the plants an inch or two in height; a ſecond in April, of larger dimenſions, in which to tranſplant them when proper; and a third in May for a large frame, to receive them tranſplanted into pots, to remain till the end of June or beginning of July to grow to full ſize: all of which hot-beds muſt be covered with frames and glaſſes, and have five or ſix inches depth of fine rich light earth for the reception of the ſeed and plants; and in the ſecond and third hot-bed, the frames muſt occaſionally be raiſed or augmented, according as the plants ſhall riſe in height.

CELSIA, in botany: A genus of the angioſpermia order, belonging to the tridynamia claſs of plants; and in the natural method ranking under the 28th order, *Luridæ*. The calyx is quinquepartite: the corolla wheel-ſhaped; the filamenta bearded or woolly; the capſule bilocular.

CELSUS (Aurelius Cornelius), a celebrated phyſician of the firſt century, who wrote eight books on medicine, in elegant Latin. He was the Hippocrates of the Latins, and Quintilian gives him a high encomium. The great Boerhaave tells us, that Celſus is one of the beſt authors of antiquity for letting us into the true meaning and opinions of Hippocrates; and that, without him, the writings of this father in phy-

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Celſus. Celtæ.

fie would be often unintelligible, often miſunderſtood by us. He ſhows us alſo how the ancients cured diſtempers by friction, bathing, &c. His eight books *de Medicina* have been ſeveral times printed. The Elzivir edition, in the year 1650, by Vander Linden, is the beſt, as being entirely corrected from his manuſcripts.

Celsus, an Epicurean philoſopher, in the ſecond century. He wrote a work againſt the Chriſtians, entitled, *The true Diſcourſe*; to which Origen, at the deſire of Ambroſe his friend, wrote a learned anſwer. To this philoſopher Lucian dedicated his *Pſeudomanies*.

CELTÆ, or Celtes, an ancient nation, by which moſt of the countries of Europe are thought to have been peopled. The compilers of the Univerſal Hiſtory are of opinion, that they are deſcended from Gomer the eldeſt ſon of Japhet, the ſon of Noah. They think that Gomer ſettled in the province of Phrygia in Aſia: Aſhkenaz his eldeſt ſon, or Togarmah his youngeſt, or both, in Armenia, and Riphath the ſecond ſon in Cappadocia. When they ſpread themſelves wider, they ſeem to have moved regularly in columns without interfering with or diſturbing their neighbours. The deſcendants of Gomer, or the Celtæ, took the left hand, inſenſibly ſpreading themſelves weſtward towards Poland, Hungary, Germany, France, and Spain; while the deſcendants of Magog, Gomer's brother, moving eaſtward, peopled Tartary.

In this large European tract, the Celtes began to appear a powerful nation under a regular monarchy, or rather under ſeveral conſiderable kingdoms. Mention is made of them indeed in ſo many parts of Europe, by ancient geographers and hiſtorians, that Ortelius took *Celtica* to be a general name for the continent of Europe, and made a map of it bearing this title. In thoſe parts of Aſia, which they poſſeſſed, as well as in the different parts of Europe, the Celtes went by various names. In Leſſer Aſia they were known by the names of *Titans* and *Sacks*; in the northern parts of Europe, by thoſe of *Cymmerians*, *Cymbrians*, &c.; and in the ſouthern parts they were called *Celtes*, *Gauls*, or *Galatians*.

With reſpect to the government of the Celtes we are entirely in the dark. All we know is, that the curetes, and afterwards druids and bards, were the interpreters of their laws; judged all cauſes whether criminal or civil; and their ſentence was reckoned ſo ſacred, that whoever refuſed to abide by it was by them excluded from aſſiſting at their ſacred rites; after which no man dared converſe with him; ſo that this puniſhment was reckoned the moſt ſevere of all, even ſeverer than death itſelf.

They neither reared temples nor ſtatues to the deity, but deſtroyed them wherever they could find them, planting in their ſtead large ſpacious groves; which being open on the top and ſides, were, in their opinion, more acceptable to the divine Being, who is abſolutely unconfined. In this their religion ſeems to have reſembled that of the Perſees and diſciples of Zoroaſter. The Celtes only differed from them in making the oak inſtead of the fire the emblem of the deity; in chooſing that tree above all others to plant their groves with, and attributing ſeveral ſupernatural virtues both to its wood, leaves, fruit, and miſſletoe; all which were made uſe of in their ſacrifices and other parts of their worſhip. But after they had adopted the idolatrous ſuperſtition of the Romans and other nations, and the apotheoſis of their heroes and princes, they came to worſhip them much in the ſame manner: as Jupiter under the name of *Taran*, which in the Celtic ſignifies thunder: Mercury, whom ſome authors call *Heus* or *Heſus*, probably, from the Celtic *huadh*, which ſignifies a dog, and might be the *Anubis latrans* of the Egyptians. But Mars was held in the greateſt veneration by the warlike, and Mercury by the trading part of the nation. The care of religion was immediately under their curetes, ſince known by the name of druids and bards. Theſe were, as Cæſar tells us, the performers of ſacrifices and all religious rites, and expounders of religion to the people. They alſo inſtructed youth in all kinds of learning, ſuch as philoſophy, aſtronomy, aſtrology, &c. Their doctrines were taught only by word of mouth, eſteeming them too ſacred to be committed to writing. Other more common ſubjects, ſuch as their hymns to their gods, the exploits of princes and generals in time of war, and eſpecially before a battle, were couched in elegant verſe, and recited, or rather ſung, on all proper occaſions; though even theſe were alſo kept from vulgar eyes, and either committed to memory, or if to writing, the whole was a ſecret to all the laity. The latter indeed ſeems the moſt probable, if what Cæſar hints be true; namely, that theſe poetic records were increaſed in his time to ſuch a bulk, that it took up a young bard near 20 years to learn them by heart. Diodorus tells us farther, that theſe poets uſed to accompany their ſongs with inſtrumental muſic, ſuch as that of organs, harps, and the like; and that they were held in ſuch veneration, that if, in the time of an engagement between two armies, one of theſe bards appeared, both ſides immediately ceaſed fighting. The reaſon of this was, that they were univerſally believed to be prophets as well as poets; ſo that it was thought dangerous as well as injurious to diſobey what they ſuppoſed came from their gods. Theſe prophetic philoſophers kept academies, which were reſorted to not only by a great number of their own youth, but alſo of thoſe from other countries, inſomuch that Ariſtotle ſays, their philoſophy paſſed from thence into Greece, and not from Greece thither. Diodorus likewiſe quotes a paſſage from Hecateus, which is greatly in their praiſe; *viz.* that the druids had ſome kind of inſtruments by which they could draw diſtant objects nearer, and make them appear larger and plainer; and by which they could diſcover even ſeas, mountains, and valleys, in the moon. But whatever might be their learning, it is certain, that in proceſs of time they adopted ſeveral very barbarous cuſtoms, ſuch as ſacrificing human victims to their gods as more acceptable to them than thoſe of any other animals. And Diodorus tells us of another inhuman cuſtom they uſed in their divinations, eſpecially in great matters, which was done by killing ſome of their ſlaves, or ſome priſoners of war, if any they had, with a ſcimetar, to draw their augury from the running of his blood from his mangled limbs.

Celtæ, Celtes.

For the hiſtory, &c. of the different Celtic nations ſee the article Gaul, &c.

Celtes, certain ancient inſtruments of a wedge-like form, of which ſeveral have been diſcovered in

Celtiberia, Celtis.

different parts of Great Britain. Antiquarians have generally attributed them to the Celtæ; but, not agreeing as to their uſe, diſtinguiſhed them by the above unmeaning appellation. But Mr Whittaker makes it probable that they were Britiſh battle-axes. See *Battle-Ax*.

CELTIBERIA (anc. geog.), a county of the Hither Spain, along the right or ſouth-weſt ſide of the river Iberus; though ſometimes the greateſt part of Spain was called by the name of *Celtiberia*. The people were denominated *Celtiberi*, or the Celtæ ſeated on the Iberus. They were very brave and warlike, their cavalry in particular was excellent. They wore a black and rough cloak, the ſhag of which was like goats hair. Some of them had light bucklers like the Gauls; other hollow and round ones like thoſe of other nations. They all wore boots made of hair, and iron helmets adorned with creſts of a purple colour. They uſed ſwords which cut on both ſides, and poinards of a foot long. Their arms were of an admirable temper, and are ſaid to have been prepared in the following manner: they buried plates of iron under ground, where they let them remain till the ruſt had eaten the weakeſt part of the metal, and the reſt was conſequently hard and firm. Of this excellent iron they made their ſwords, which were ſo ſtrong and well tempered, that there was neither buckler nor helmet that could reſiſt their edge. The Celtiberians were very cruel towards their enemies and malefactors, but ſhowed the greateſt humanity to their gueſts. They not only cheerfully granted their hoſpitality to ſtrangers who travelled in their country, but were deſirous that they ſhould ſeek protection under their roof.

CELTIS, in botany: A genus of the monœcia order, belonging to the polygamia claſs of plants; and in the natural method ranking under the 53d order, *Scabridæ*. It is an hermaphrodite plant: The female calyx is quinquepartite; there is no corolla; there are five ſtamina, and two ſtyles. The fruit is a monoſpermous plum. In the male, there is no calyx: the corolla is hexapetalous; there are ſix ſtamina, and an embryo of a piſtillum. There are three ſpecies, all of them deciduous, viz.

1. The Auſtralis or Southern Celtis, a deciduous tree, native of Africa and the South of Europe. 2. The Occidentalis or Weſtern Celtis, a native of Virginia. And 3. The Orientalis or Eaſtern Celtis, a native of Armenia. The two firſt ſpecies grow with large, fair, ſtraight ſtems; their branches are numerous and diffuſe; their bark is of a darkiſh grey colour; their leaves are of a pleaſant green; three or four inches long, deeply ſerrated, end in a narrow point, nearly reſemble the leaves of the common ſtinging-nettle, and continue on the trees till late in the autumn: So that one may eaſily conceive what an agreeable variety theſe trees would make. Add to this, their ſhade is admirable. The leaves are late in the ſpring before they ſhow themſelves; but they make amends for this, by retaining their verdure till near the cloſe of autumn, and then do not reſemble moſt deciduous trees, whoſe leaves ſhow their approaching fall by the change of their colour; but continue to exhibit themſelves of a pleaſant green even to the laſt. Hanbury ſpeaks highly of the celtis as a timber-tree: he ſays, "The wood of the Lote-tree is extremely durable. In Italy they make their flutes, pipes, and other wind-inſtruments of it. With us the coach-makers uſe it for the frames of their vehicles." Millar mentions alſo the wood of the Occidentalis being uſed by the coach-makers. The third ſpecies will grow to about twelve feet; and the branches are numerous, ſmooth, and of a greeniſh colour. The leaves are ſmaller than thoſe of the other ſorts, though they are of a thicker texture, and of a lighter green. The flowers come out from the wings of the leaves, on ſlender footſtalks: They are yelloviſh, appear early in the ſpring, and are ſucceeded by large yellow fruit.

Celtis.

Propagation, &c. All the ſpecies are propagated from ſeeds, which ripen in England, if they have a favourable autumn; but the foreign ſeeds are the moſt certain of producing a crop. Theſe ſeeds ſhould be ſown, ſoon after they are ripe, either in boxes, or in a fine warm border of rich earth, a quarter of an inch deep; and in the following ſpring many of the young plants will appear; though a great part often lie till the ſecond ſpring before they ſhow their heads. If the ſeeds in the beds ſhoot early in the ſpring, they ſhould be hooped, and protected by mats from the froſts, which would nip them in the bud. When all danger from froſts is over, the mats ſhould be laid aſide till the parching beams of the ſun get powerful; when, in the day-time, they may be laid over the hoops again, to ſcreen the plants from injury. The mats ſhould be conſtantly taken off every night, and the young plants ſhould never be covered either in rainy or cloudy weather. During the whole ſummer, theſe ſeedlings ſhould be frequently watered in dry weather, and the beds kept clean of weeds, &c. In the autumn, they muſt be protected from the froſts, which often come early in that ſeaſon, and would not fail to deſtroy their tops. The like care ſhould be continued all winter to defend them from the ſame enemies. In this ſeminary they may remain, being kept clean of weeds and watered in dry weather, till the end of June, when they ſhould be taken out of their beds, and planted in others at ſix inches diſtance. And here let no one (continues Hanbury) be ſtartled at my recommending the month of June for this work; for I have found by repeated experience, that the plants will be then almoſt certain of growing, and will continue their ſhoots till the autumn; whereas I have ever perceived, that many of thoſe planted in March have frequently periſhed, and that thoſe which did grow made hardly any ſhoot that year, and ſhowed the early figure of a ſtunted tree. In June, therefore, let the ground be well dug, and prepared for this work; and let the mould be rich and good: But the operation of removing muſt be deferred till rain comes; and if the ſeaſon ſhould be dry, this work may be poſtponed till the middle of July. After a ſhower, therefore, or a night's rain, let the plants be taken out of their beds, and pricked out at ſix inches diſtance from each other. After this, the beds in which they are planted ſhould be hooped, and covered with mats when the ſun ſhines; but theſe muſt always be taken away at night, as well as in rainy or cloudy weather. With this management, they will have ſhot to a good height by the autumn, and have acquired ſo much hardineſs and ſtrength as to need no farther care than to be kept

clear

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Cement. clear of weeds for two or three years; when they may be planted out in places where they are to remain, or ſet in the nurſery, to be trained up for large ſtandards. The beſt ſeaſon for planting out theſe ſtandard trees is the latter end of October, or beginning of November; and in performing that operation, the uſual rules muſt be obſerved with care. The ſoil for the lote-tree ſhould be light, and in good heart; and the ſituation ought to be well defended, the young ſhoots being very liable to be deſtroyed by the winter's froſts.

CEMENT, in a general ſenſe, any glutinous ſubſtance capable of uniting and keeping things together in cloſe coheſion. In this ſenſe the word *cement* comprehends mortar, ſolder, glue, &c. but has been generally reſtrained to the compoſitions uſed for holding together broken glaſſes, china, and earthen ware. For this purpoſe the juice of garlic is recommended as exceedingly proper, being both very ſtrong, and, if the operation is performed with care, leaving little or no mark. Quicklime and the white of an egg mixed together, and expeditiouſly uſed, are alſo very proper for this purpoſe. Dr Lewis recommends a mixture of quicklime and cheeſe, in the following manner: "Sweet cheeſe ſhaved thin and ſtirred with boiling hot water, changes into a tenacious ſlime which does not mingle with the water. Worked with freſh parcels of hot water, and then mixed upon a hot ſtone with a proper quantity of unſlaked lime, into the conſiſtence of a paſte, it proves a ſtrong and durable cement for wood, ſtone, earthen-ware, and glaſs. When thoroughly dry, which will be in two or three days, it is not in the leaſt acted upon by water. Cheeſe barely beat with quicklime, as directed by ſome of the chemiſts for luting cracked glaſſes, is not near ſo efficacious." A compoſition of the drying oil of linſeed and white-lead is alſo uſed for the ſame purpoſes, but is greatly inferior.

CEMENT in building, is uſed to denote any kind of mortar of a ſtronger kind than ordinary. The cement commonly uſed is of two kinds; hot, and cold. The hot cement is made of roſin, bees wax, brick-duſt, and chalk, boiled together. The bricks to be cemented are heated, and rubbed one upon another, with cement between them. The cold cement is that above deſcribed for cementing china, &c. which is ſometimes, though rarely, employed in building.

The ruins of the ancient Roman buildings are found to cohere ſo ſtrongly, that moſt people have imagined the ancients were acquainted with ſome kind of mortar, which, in compariſon of ours, might juſtly be called *cement*; and that to our want of knowledge of the materials they uſed, is owing the great inferiority of modern buildings in their durability. In 1770, one M. Loriot, a Frenchman, pretended to have diſcovered the ſecret of the ancient cement, which, according to him, was no more than a mixture of powdered *quicklime* with lime which had been long ſlaked and kept under water. The ſlaked lime was firſt to be made up with ſand, earth, brick-duſt, &c. into mortar after the common method, and then about a third part of quick-lime in powder was added to the mixture. This produced an almoſt inſtantaneous petrification, ſomething like what is called the *ſetting* of alabaſter, but in a much ſtronger degree; and was poſſeſſed of many wonderful qualities needleſs here to relate, ſeeing it has never been known to ſucceed with any other perſon who tried it. Mr Anderſon, in his eſſays on agriculture, has diſcuſſed this ſubject at conſiderable length, and ſeemingly with great judgment. He is the only perſon we know, who has given any rational theory of the uſes of lime in building, and why it comes to be the proper baſis of all cements. His account is in ſubſtance as follows: Cement.

Lime which has been ſlaked and mixed with ſand, becomes hard and conſiſtent when dry, by a proceſs ſimilar to that which produces the natural *ſtalactites* in caverns. Theſe are always formed by water dropping from the roof. By ſome unknown and inexplicable proceſs of nature, this water has diſſolved in it a ſmall portion of calcareous matter in a *cauſtic* ſtate. As long as the water continues covered from the air, it keeps the earth diſſolved in it; it being the natural property of calcareous earths, when deprived of their fixed air, to diſſolve in water. But when the ſmall drop of water comes to be expoſed to the air, the calcareous matter contained in it begins to attract the fixable part of the atmoſphere. In proportion as it does ſo, it alſo begins to ſeparate from the water, and to reaſſume its native form of limeſtone or marble. This proceſs Mr Anderſon calls a *cryſtallization*; and when the calcareous matter is perfectly *cryſtallized* in this manner, he affirms that it is to all intents and purpoſes limeſtone or marble of the ſame conſiſtence as before: and "in this manner (ſays he), within the memory of man, have huge rocks of marble been formed near Matlock in Derbyſhire." If lime in a cauſtic ſtate is mixed with water, part of the lime will be diſſolved, and will alſo begin to cryſtallize. The water which parted with the cryſtallized lime, will then begin to act upon the remainder, which it could not diſſolve before; and thus the proceſs will continue, either till the lime be all reduced to an *effete*, or (as he calls it) *cryſtalline* ſtate, or ſomething hinders the action of the water upon it. It is this cryſtallization which is obſerved by the workmen when a heap of lime is mixed with water, and left for ſome time to macerate. A hard cruſt is formed upon the ſurface, which is ignorantly called *froſting*, though it takes place in ſummer as well as in winter. If therefore the hardneſs of the lime, or its becoming a cement, depends entirely on the formation of its cryſtals, it is evident, that the perfection of the cement muſt depend on the perfection of the cryſtals, and the hardneſs of the matters which are entangled among them. The additional ſubſtances uſed in making of mortar, ſuch as ſand, brick-duſt, or the like, according to Mr Anderſon, ſerve only for a purpoſe ſimilar to what is anſwered by ſticks put into a veſſel full of any ſaline ſolution, namely, to afford the cryſtals an opportunity of faſtening themſelves upon it. If therefore the matter interpoſed between the cryſtals of the lime is of a friable, brittle nature, ſuch as brick duſt or chalk, the mortar will be of a weak and imperfect kind; but when the particles are hard, angular, and very difficult to be broken, ſuch as thoſe of river or pit-ſand, the mortar turns out exceedingly good and ſtrong. Sea-ſand is found to be an improper material for mortar, which Mr Anderſon aſcribes to its being leſs angular than the other kinds. That the cryſtallization may be the more perfect, he alſo recommends a large quantity of water, that the ingredients be

Cement. be perfectly mixed together, and that the drying be as ſlow as poſſible. An attention to theſe circumſtances, he thinks, would make the buildings of the moderns equally durable with thoſe of the ancients; and from what remains of the ancient Roman works, he thinks a very ſtrong proof of his hypotheſis might be adduced. The great thickneſs of their walls neceſſarily required a vaſt length of time to dry. The middle of them was compoſed of pebbles thrown in at random, and which have evidently had mortar ſo thin as to be *poured* in among them. By this means, a great quantity of the lime would be diſſolved, and the cryſtallization performed in the moſt perfect manner; and the indefatigable pains and perſeverance for which the Romans were ſo remarkable in all their undertakings, leave no room to doubt that they would take care to have the ingredients mixed together as well as poſſible. The conſequence of all this is, that the buildings formed in this manner are all as firm as if cut out of a ſolid rock; the mortar being equally hard, if not more ſo, than the ſtones themſelves.

Notwithſtanding the bad ſucceſs of thoſe who have attempted to repeat M. Loriot's experiments, however, Dr Black informs us, that a cement of this kind is certainly practicable. It is done, he ſays, by powdering the lime while hot from the kiln, and throwing it into a thin paſte of ſand and water; which, not ſlaking immediately, abſorbs the water from the mortar by degrees, and forms a very hard maſs. "It is plain (he adds) that the ſtrength of this mortar depends on uſing the lime hot or freſh from the kiln."

By mixing together gypſum and quick-lime, and then adding water, we may form a cement of tolerable hardneſs, and which apparently might be uſed to advantage in making troughs for holding water, or lining ſmall canals for it to run in. Mr Wiegleb ſays, that a good mortar or cement, which will not crack, may be obtained by mixing three parts of a thin magma of ſlaked lime with one of powdered gypſum; but adds, that it is uſed only in a dry ſituation. A mixture of tarras with ſlaked lime acquires in time a ſtoney hardneſs, and may be uſed for preventing water from entering. See Mortar and Stucco.

Cement, among engravers, jewellers, &c. is the ſame with the hot cement uſed in building *; and is uſed for keeping the metals to be engraven firm to the block, and alſo for filling up what is to be chiſſeled.

* See the foregoing article.

Cement, in chemiſtry, is uſed to ſignify all thoſe powders and paſtes with which any body is ſurrounded in pots or crucibles, and which are capable by the help of fire of producing changes upon that body. They are made of various materials; and are uſed for different purpoſes, as for parting gold from ſilver, converting iron into ſteel, copper into braſs: and by cementation more conſiderable changes can be effected upon bodies, than by applying to them liquids of any kind; becauſe the active matters are then in a ſtate of vapour, and aſſiſted by a very conſiderable degree of heat.

Cement which quickly hardens in Water. This is deſcribed in the poſthumous works of Mr Hooke, and is recommended for gilding live craw-fiſh, carps, &c. without injuring the fiſh. The cement for this purpoſe is prepared, by putting ſome Burgundy pitch into a new earthen pot, and warming the veſſel till it receives ſo much of the pitch as will ſtick round it; then ſtrewing ſome finely powdered amber over the pitch when growing cold, adding a mixture of three pounds of linſeed oil, and one of oil of turpentine, covering the veſſel and boiling them for an hour over a gentle fire, and grinding the mixture as it is wanted with as much pumice-ſtone in fine powder as will reduce it to the conſiſtence of paint. The fiſh being wiped dry, the mixture is ſpread upon it; and the gold leaf being then laid on, the fiſh may be immediately put into water again, without any danger of the gold coming off, for the matter quickly grows hard in the water. Cement ii Cutler.

Cement-Pot, are thoſe earthen pots uſed in the cementation of metals.

CEMENTATION, the act of corroding or otherwiſe changing a metal by means of a Cement.

CEMETERY (Κοιμητηριον, from Κοιμαω to "*ſleep*;") a place ſet apart or conſecrated for the burial of the dead.

Anciently none were buried in churches or churchyards: it was even unlawful to inter in cities, and the cemeteries were without the walls. Among the primitive Chriſtians theſe were held in great veneration. It even appears from Euſebius and Tertullian, that, in the early ages, they aſſembled for divine worſhip in the cemeteries. Valerian ſeems to have confiſcated the cemeteries and other places of divine worſhip, but they were reſtored again by Gallienus. As the martyrs were buried in theſe places, the Chriſtians choſe them for building churches in, when Conſtantine eſtabliſhed their religion; and hence ſome derive the rule which ſtill obtains in the church of Rome, never to conſecrate an altar without putting under it the relics of ſome ſaint. The practice of conſecrating cemeteries is of ſome antiquity. The biſhop walked round it in proceſſion, with the crozier or paſtoral ſtaff in his hand, the holy water-pot being carried before, out of which the aſperſions were made.

CENCHRUS, in botany: A genus of the monœcia order, belonging to the polygamia claſs of plants; and in the natural method ranking under the 4th order, *Gramina*. The involucrum is laciniated, and echinated, or beſet with ſmall prickles, and biflorous. The calyx is a biflorous glume, with one floret-male, and the other hermaphrodite. The hermaphrodite corolla is a pointleſs glume; there are three ſtamina; one ſeed: the male corolla a pointleſs glume; with three ſtamina.

CENEGILD, in the Saxon Antiquities, an expiatory mulct, paid by one who had killed a man, to the kindred of the deceaſed. The word is compounded of the Saxon *cinne*, i. e. *cognatio*, "relation", and *gild*, *ſolutio*, "payment".

CENOBITE. See Coenobite.

CENOTAPH, in antiquity, an empty tomb, erected by way of honour to the deceaſed. It is diſtinguiſhed from a ſepulchre, in which a coffin was depoſited. Of theſe there were two ſorts; one for thoſe who had, and another for thoſe who had not, been honoured with funeral rites in another place.

The ſign whereby honorary ſepulchres were diſtinguiſhed from others, was commonly the wreck of a ſhip, to denote the deceaſe of the perſon in ſome foreign country.

CENSER, in antiquity, a vaſe containing incenſe to be uſed in ſacrifices. Cenſer is chiefly uſed in ſpeak-

Cenſo ‖ Cenſor.

ing of the Jewiſh worſhip. Among the Greeks and Romans it is more frequently called *thuribulum*, λιβανωτὸς, and *acerra*.

The Jewiſh cenſer was a ſmall ſort of chafing-diſh, covered with a dome, and ſuſpended by a chain. Joſephus tells us, that Solomon made twenty thouſand gold cenſers for the temple of Jeruſalem, to offer perfumes in, and fifty thouſand others to carry fire in.

CENSIO, in antiquity, the act or office of the cenſor. See CENSUS.

Cenſio included both the rating or valuing a man's eſtate, and the impoſing mulcts and penalties.

Censio haſtaria, a puniſhment inflicted on a Roman ſoldier for ſome offence, as lazineſs or luxury, whereby his *haſta* or ſpear was taken from him, and conſequently his wages and hopes of preferment ſtopped.

CENSITUS, a perſon cenſed, or entered in the cenſual tables. See CENSUS.

In an ancient monument found at Ancyra, containing the actions of the emperor Octavius, we read,

Quo luſtro civium Romanorum
Cenſita ſunt capita quadragies
Centum millia & ſexaginta tria.

CENSITUS is alſo uſed in the civil law for a ſervile ſort of tenant, who pays capitation to his lord for the land he holds of him, and is entered as ſuch in the lord's rent-roll. In which ſenſe, the word amounts to the ſame with *capite cenſus*, or *capite cenſitus*. See CAPITE *Cenſi*.

CENSOR, (from *cenſere* to "ſee" or "perceive"), one of the prime magiſtrates in ancient Rome.—Their buſineſs was to regiſter the effects of the Roman citizens, to impoſe taxes in proportion to what each man poſſeſſed, and to take cognizance or inſpection of the manners of the citizens. In conſequence of this laſt part of their office, they had a power to cenſure vice or immorality by inflicting ſome public mark of ignominy on the offender. They had even a power to create the *princeps ſenatus*, and to expel from the ſenate ſuch as they deemed unworthy of that office. This power they ſometimes exerciſed without ſufficient grounds; and therefore a law was at length paſſed, that no ſenator ſhould be degraded or diſgraced in any manner, until he had been formally accuſed and found guilty by both the cenſors. It was alſo a part of the cenſorian juriſdiction, to fill up the vacancies in the ſenate, upon any remarkable deficiency in their number; to let out to farm all the lands, revenues, and cuſtoms, of the republic; and to contract with artificers for the charge of building and repairing all the public works and edifices both in Rome and the colonies of Italy. In all parts of their office, however, they were ſubject to the juriſdiction of the people; and an appeal always lay from the ſentence of the cenſors to that of an aſſembly of the people.

The firſt two cenſors were created in the year of Rome 311, upon the ſenate's obſerving that the conſuls were ſo much taken up with war, as not to have time to look into other matters. The office continued to the time of the emperors, who aſſumed the cenſorial power, calling themſelves *morum præfecti*; though Veſpaſian and his ſons took the title of cenſors. Decius attempted to reſtore the dignity to a particular magiſtrate. After this we hear no more of it, till Conſtantine's time, who made his brother cenſor, and he ſeems to have been the laſt that enjoyed the office.

Cenſor ‖ Cenſus.

The office of cenſor was ſo conſiderable, that for a long time none aſpired to it till they had paſſed all the reſt; ſo that it was thought ſurpriſing that Craſſus ſhould be admitted cenſor, without having been either conſul or prætor. At firſt the cenſors enjoyed their dignity for five years, but in 420 the dictator Mamertinus made a law reſtraining it to a year and an half, which was afterwards obſerved very ſtrictly. At firſt one of the cenſors was elected out of a patrician, and the other out of a plebeian family; and upon the death of either, the other was diſcharged from his office, and two new ones elected, but not till the next luſtrum. In the year of Rome 622, both cenſors were choſen from among the plebeians; and after that time the office was ſhared between the ſenate and people. —After their election in the Comitia Centuriata, the cenſors proceeded to the capitol, where they took an oath not to manage either by favour or diſaffection, but to act equitably and impartially throughout the whole courſe of their adminiſtration.

The republic of Venice ſtill has a cenſor of the manners of their people, whoſe office laſts ſix months.

Censors of Books, are a body of doctors or others eſtabliſhed in divers countries, to examine all books before they go to the preſs, and to ſee they contain nothing contrary to faith and good manners.

At Paris, the faculty of theology claim this privilege, as granted to them by the pope; but, in 1624, new commiſſions of four doctors were created, by letters-patent, the ſole cenſors of all books, and anſwerable for every thing contained therein.

In England, we had formerly an officer of this kind, under the title of licenſer of the preſs: but, ſince the revolution, our preſs has been laid under no ſuch reſtraint.

CENSORINUS, a celebrated writer in the third century, well known by his treatiſe *De Die Natali*. This treatiſe, which was written about the year 238, Gerard Voſſius calls a little book of gold; and declares it to be a moſt learned work of the higheſt uſe and importance to chronologers, ſince it connects and determines, with great exactneſs, ſome of the principal æras in pagan hiſtory. It was printed at Cambridge, with the notes of Lindenbrokius, in 1695.

CENSURE, a judgment which condemns ſome book, perſon, or action, or, more particularly, a reprimand from a ſuperior. Eccleſiaſtical cenſures are penalties by which, for ſome remarkable miſbehaviour, Chriſtians are deprived of the communion of the church, or prohibited to execute the ſacerdotal office.

CENSUS, in Roman antiquity, an authentic declaration made before the cenſors, by the ſeveral ſubjects of the empire, of their reſpective names and places of abode. This declaration was regiſtered by the cenſors; and contained an enumeration, in writing, of all the eſtates, lands, and inheritances they poſſeſſed; their quantity, quality, place, wives, children, domeſtics, tenants, ſlaves. In the provinces the cenſus ſerved not only to diſcover the ſubſtance of each perſon, but where, and in what manner and proportion, taxes might be beſt impoſed. The cenſus at Rome is commonly.

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Cenſus, Cent.

ly thought to have been held every five years; but Dr Middleton hath ſhown, that both cenſus and luſtrum were held irregularly and uncertainly at various intervals. The cenſus was an excellent expedient for diſcovering the ſtrength of the ſtate: for by it they diſcovered the number of the citizens, how many were fit for war, and how many for offices of other kinds; how much each was able to pay of taxes, &c. It went through all ranks of people, though under different names: that of the commun people was called *cenſus*; that of the knights, *cenſus*, *recenſio*, *recognitio*; that of the ſenators, *lectio*, *relectio*.—Hence alſo *cenſus* came to ſignify a perſon who had made ſuch a declaration; in which ſenſe it was oppoſed to *incenſus*, a perſon who had not given in his eſtate, or name, to be regiſtered.

The cenſus, according to Salmaſius, was peculiar to the city of Rome. That in the provinces was properly called *profeſſio* and ἀπογραφή. But this diſtinction is not every where obſerved by the ancients themſelves.

Cenſus was alſo uſed for the book or regiſter wherein the profeſſions of the people were entered: in which ſenſe, the cenſus was frequently cited and appealed to, as evidence in the courts of juſtice.

Cenſus is alſo uſed to denote a man's whole ſubſtance or eſtate.

Cenſus Senatorius, the patrimony of a ſenator, which was limited to a certain value; being at firſt rated at eight hundred thouſand ſeſterces, but afterwards, under Auguſtus, enlarged to twelve hundred thouſand.

Cenſus Equeſter, the eſtate or patrimony of a knight, rated at four hundred thouſand ſeſterces, which was required to qualify a perſon for that order, and without which no virtue or merit was available.

Cenſus was alſo uſed for a perſon worth an hundred thouſand ſeſterces, or who was entered as ſuch in the ceſual tables, on his own declaration. In which ſenſe, cenſus amounts to the ſame with *claſſicus*, or a man of the firſt claſs; though Gellius limits the eſtate of thoſe of this claſs to an hundred and twenty-five thouſand aſſes. By the Voconian law, no cenſus was allowed to give by his will above a fourth part of what he was worth to a woman.

Cenſus was alſo uſed to denote a tax or tribute impoſed on perſons, and called alſo capitation. See *Capite Cenſi*.

Cenſus Dominicatus, in writers of the lower age, denotes a rent due to the lord.

Cenſus Duplicatus, a double rent or tax, paid by vaſſals to their lord on extraordinary or urgent occaſions; as expeditions to the Holy Land, &c.

Cenſus Eccleſiæ Romanæ, was an annual contribution voluntarily paid to the ſee of Rome by the ſeveral princes of Europe.

CENT, ſignifies properly an hundred, being an abridgement of the word *centum*; but is often uſed in commerce to expreſs the profit or loſs ariſing from the ſale of any commodity: ſo that when we ſay there is 10 *per cent.* profit, or 10 *per cent.* loſs, upon any merchandize that has been ſold, it is to be underſtood, that the ſeller has either gained or loſt ten pounds on every hundred pounds of the price at which he bought that merchandize; which is $\frac{1}{10}$ of profit, or $\frac{1}{10}$ of loſs, upon the total of the ſale.

Centaurea ‖ Centella.

CENTAUREA, in botany: A genus of the polygamia fruſtanea order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ*. The receptacle is briſtly; the pappus ſimple; the corollulæ of the radius funnel-ſhaped, longer than thoſe of the diſk, and irregular.

CENTAUR, in aſtronomy, a part or moiety of a ſouthern conſtellation, in form half-man half-horſe; uſually joined with the wolf. The word comes from κεντεω, formed of κεντεω, *pungo*; and ταυρος, *bull*; q. d. *bull-pricker*. The ſtars of this conſtellation, in Ptolemy's Catalogue are 37; in Tycho's 4; and in the Britannic Catalogue, with Sharp's Appendix, 35.

CENTAURS, in mythology, a kind of fabulous monſters, half men and half horſes.—The poets pretend that the centaurs were the ſons of Ixion and a cloud; the reaſon of which fancy is, that they retired to a caſtle called νεφελη, which ſignifies a "cloud."—This fable is differently interpreted: ſome will have the centaurs to have been a body of ſhepherds and herdſmen, rich in cattle, who inhabited the mountains of Arcadia, and to whom is attributed the invention of bucolic poetry. Palæphætus, in his book of incredibles, relates, that under the reign of Ixion, king of Theſſaly, a herd of bulls on mount Theſſaly run mad, and ravaged the whole country, rendering the mountains inacceſſible; that ſome young men who had found the art of taming and mounting horſes, undertook to clear the mountains of theſe animals, which they purſued on horſeback, and thence obtained the appellation of *Centaurs*. This ſucceſs rendering them inſolent, they inſulted the Lapithæ, a people of Theſſaly: and becauſe when attacked they fled with great rapidity, it was ſuppoſed they were half horſes and half men.—The Centaurs in reality were a tribe of Lapithæ, who inhabited the city Pelethronium adjoining to mount Pelion, and firſt invented the art of breaking horſes, as is intimated by Virgil.

CENTAUREA, GREATER CENTAURY: A genus of the polygamia fruſtanea order, belonging to the ſyngeneſia claſs of plants; and in the natural method ranking under the 49th order, *Compoſitæ*. The receptacle is briſtly, the pappus ſimple, the corollulæ of the radius funnel-ſhaped, longer than thoſe of the diſk, and irregular. There are 61 ſpecies. The root of one of them called *glaſtifolia*, is an article in the materia medica. It has a rough, ſomewhat acrid taſte, and abounds with a red viſcid juice. Its rough taſte has gained it ſome eſteem as an aſtringent; its acrimony as an aperient; and its glutinous quality as a vulnerary: but the preſent practice takes very little notice of it in any intention. Another of the ſpecies is the cyanus or blue bottle, which grows commonly among corn. The expreſſed juice of this flower ſtains linen of a beautiful blue colour, but is not permanent. Mr Boyle ſays, that the juice of the inner petals, with a little alum, makes a beautiful permanent colour, equal to ultramarine.

Leſſer CENTAURY. See GENTIANA.

CENTELLA, in botany: A genus of the tetrandria order, belonging to the monœcia claſs of plants; and in the natural method ranking under the 11th order, *Sarmentaceæ*. The male involucrum is tetraphyllous and quinqueflorous, with four petals; the female

Centenarius
Centiloquium.

involucrum is diphyllous and uoiflorous; the petals four; the germen inferior; two ſtyles; and a bilocular ſeed-caſe.

CENTENARIUS, or CENTENARIO, in the middle age, an officer who had the government or command, with the adminiſtration of juſtice, in a village. The centenarii as well as vicarii were under the juriſdiction and command of the court. We find them among the Franks, Germans, Lombards, Goths, &c.

CENTENARIUS was alſo uſed for an officer who had the command of 100 men; moſt frequently called a CENTURION.

CENTENARIUS, in monaſteries, was an officer who had the command of 100 monks.

CENTENINUM OVUM, among naturaliſts, denotes a ſort of hen's egg much ſmaller than ordinary, vulgarly called a *cock's egg*; from which it has been fabulouſly held that the cockatrice or baſiliſk is produced. The name is taken from an opinion, that theſe are the laſt eggs which hens lay, having laid 100 before; whence *centeninum*, q. d. the hundredth egg.—Theſe eggs have no yolks, but in other reſpects differ not from common ones; having the albumen, chalazes, membranes, &c. in common with others. In the place of the yolk is found a little body like a ſerpent coiled up, which doubtleſs gave riſe to the fable of the baſiliſk's origin from thence. Their origin is with probability aſcribed by Hervey to this, that the yolks in the vitellary of the hen are exhauſted before the albumina.

CENTER, or CENTRE, in a general ſenſe, ſignifies a point equally diſtant from the extremities of a line, figure, or body. The word is formed from the Greek κέντρον, a *point*.

CENTER of Gravity, in mechanics, that point about which all the parts of a body do in any ſituation exactly balance each other.

CENTER of Motion, that point which remains at reſt, while all the other parts of a body move about it.

CENTER of a Sphere, a point in the middle, from which all lines drawn to the ſurface are equal.

Hermes Triſmegiſtus defines God an intellectual ſphere, whoſe center is every where, and circumference no where.

CENTESIMA USURA, that wherein the intereſt in an hundred months became equal to the principal; *i. e.* where the money is laid out at one *per cent.* per month; anſwering to what in our ſtyle would be called 12 *per cent.* for the Romans reckoned their intereſt not by the year, but by the month.

CENTESIMATION, a milder kind of military puniſhment, in caſes of deſertion, mutiny, and the like, when only every hundredth man is executed.

CENTILOQUIUM, denotes a collection of 100 ſentences, opinions, or ſayings.

The centiloquium of Hermes, contains 100 aphoriſms, or aſtrological ſentences, ſuppoſed to have been written by ſome Arab, falſely fathered on Hermes Triſmegiſtus. It is only extant in Latin, in which it has ſeveral times been printed.—The centiloquium of Ptolomy is a famous aſtrological piece, frequently confounded with the former, conſiſting likewiſe of 100 ſentences, or doctrines, divided into ſhort aphoriſms, intitled alſo in Greek καρπὸς, as being the fruit or reſult of the former writings of that celebrated aſtronomer, viz. his *quadripartitum* and *almageſtum*; or rather, by reaſon that herein is ſhown the uſe of aſtrological calculations.

Centipes
Centlivre.

CENTIPES, in zoology. See SCOLOPENDRA.

CENTIPED WORM, a term uſed for ſuch worms as have a great many feet, though the number does not amount to 100, as the term ſeems to import.—M. Maloet relates the hiſtory of a man, who, for three years, had a violent pain in the lower part of the forehead near the root of the noſe: at length he felt an itching, and afterwards ſomething moving within his noſtril, which he brought away with his finger; it was a worm of the centiped kind, an inch and an half long, which run ſwiftly. It lived five or ſix days among tobacco. The patient was free of his pain ever after. Mr Littre mentioned a like caſe in 1708, of a larger centiped voided at the noſe, after it had thrown the woman, in whoſe frontal ſinus it was, into convulſions, and had almoſt deprived her of her reaſon.

CENTLIVRE (Suſanna), a celebrated comic writer, was the daughter of Mr Freeman of Holbeach, in Lincolnſhire; and had ſuch an early turn for poetry, that it is ſaid ſhe wrote a ſong before ſhe was ſeven years old. Before ſhe was twelve years of age, ſhe could not only read Moliere in French, but enter into the ſpirit of all the characters. Her father dying, left her to the care of a ſtep-mother; whoſe treatment not being agreeable to her, ſhe determined, though almoſt deſtitute of money and every other neceſſary, to go up to London to ſeek a better fortune than what ſhe had hitherto experienced. As ſhe was proceeding on her journey on foot, ſhe was met by a young gentleman from the univerſity of Cambridge, the afterwards well-known Anthony Hammond, Eſq; who was ſo extremely ſtruck with her youth and beauty, that he fell inſtantly in love with her; and inquiring into the particulars of her ſtory, ſoon prevailed upon her unexperienced innocence to ſeize on the protection he offered her, and go with him to Cambridge. After ſome months cohabitation, he perſuaded her to come to London; where, in a ſhort time, ſhe was married to a nephew of Sir Stephen Fox. But that gentleman not living with her above a twelvemonth, her wit and beauty ſoon procured her a ſecond huſband, whoſe name was Carrol, and who was an officer in the army; but he having the misfortune to be killed in a duel about a year and an half after their marriage, ſhe became a ſecond time a widow. For the ſake of ſupport ſhe now applied to her pen, and became a votary of the muſes; and it is under this name of Carrol that ſome of her earlier pieces were publiſhed. Her firſt attempt was in tragedy, in a play called the *Perjured Huſband*; yet her natural vivacity leading her afterwards to comedy, we find but one more attempt in the buſkin, among 18 dramatic pieces which ſhe afterwards wrote.

In 1706, ſhe wounded the heart of one Mr Joſeph Centlivre, yeoman of the mouth, or in other words principal cook to her Majeſty, who married her; and, after paſſing ſeveral years happily together, ſhe died at his houſe in Spring-Garden, Charing-Croſs, in December 1723.

Centner. This lady for many years enjoyed the intimacy and eſteem of the moſt eminent wits of the times, viz. Sir Richard Steele, Mr Rowe, Budgell, Farquhar, Dr Sewell, &c. and very few authors received more tokens of eſteem and patronage from the great. With regard to her merit as a writer, it muſt be allowed that her plays do not abound with wit, and that the language of them is ſometimes even poor, enervate, incorrect, puerile; but then her plots are buſy and well conducted, and her characters in general natural and well marked.

CENTNER, or DOCIMASTIC HUNDRED, in metallurgy and aſſaying, is a weight diviſible, firſt into an hundred, and thence into a greater number of other ſmaller parts; but though the word is the ſame both with the aſſayers and metallurgiſts, yet it is to be underſtood as expreſſing a very different quantity in their different acceptation of it. The weights of the metallurgiſts are eaſily underſtood, as being of the common proportion, but thoſe of the aſſayers are a thouſand times ſmaller than theſe, as the portions of metals or ores examined by the aſſayers are uſually very ſmall.

The metallurgiſts, who extract metals out of their ores, uſe a weight divided into an hundred equal parts, each part a pound; the whole they call a *centner* or *hundred weight*; the pound is divided into thirty-two parts, or half ounces: and the half ounce into two quarters of ounces, and theſe each into two drams.

Theſe diviſions and denominations of the metallurgiſts are eaſily underſtood; but the ſame words, tho' they are equally uſed by aſſayers, with them expreſs very different quantities; for as the centner of the metallurgiſts contains an hundred pounds, the centner of the aſſayers is really no more than one dram, to which the other parts are proportioned.

As the aſſayers weights are divided into ſuch an extreme degree of minuteneſs, and are ſo very different from all the common weights, the aſſayers uſually make them themſelves in the following manner, out of ſmall ſilver, or fine ſolder plates, of ſuch a ſize, that the mark of their weight, according to the diviſion of the dram, which is the *docimaſtic* or aſſaying *centner*, may be put upon them. They firſt take for a baſis one weight, being about two-thirds of a common dram: this they mark (64*lb.*) Then having at hand ſome granulated lead, waſhed clean, well dried, and ſifted very fine, they put as much of it into one of the ſmall diſhes of a fine balance as will equipoiſe the (64*lb.*) as it is called, juſt mentioned: then dividing this granulated lead into very nice halves, in the two ſcales, after taking out the firſt ſilver weight, they obtain a perfect equilibrium between the two ſcales; they then pour the granulated lead out of one diſh of the ſcales, and inſtead of it put in another ſilver weight, which they make exactly equiponderant with the lead in the other ſcale, and mark it (32*lb.*) If this ſecond weight, when firſt put into the ſcale, exceed by much the weight of the lead, they take a little from it by a very fine file; but when it comes very near, they uſe only a whetſtone to wear off an extremely ſmall portion at a time. When it is brought to be perfectly even and equal to the lead, they change the ſcales to ſee that no error has been committed, and then go on in the ſame manner till they have made all the diviſions, and all the ſmall weights. Then to have an entire centner or hundred weight, they add to the (64*lb.*) as they call it, a 32*lb.* and a 4*lb.* and weighing againſt them one ſmall weight, they make it equal to them, and mark it (100.) This is the docimaſtical, or aſſaying centner, and is really one dram. Centner. Centrifugal.

CENTO, in poetry, a work wholly compoſed of verſes or paſſages promiſcuouſly taken from other authors, only diſpoſed in a new form and order.—Proba Falconia has written the life of Jeſus Chriſt in centos taken from Virgil. Alexander Roſs has done the like in his Chriſtrados, and Stephen de Pleure the ſame.

CENTONARII, in antiquity, certain of the Roman army, who provided different ſorts of ſtuff called centones, made uſe of to quench the fire which the enemies engines threw into the camp.

Theſe centonarii kept with the carpenters and other officers of artillery.

CENTRAL FORCES, the powers which cauſe a moving body to tend towards, or recede from, the center of motion. See MECHANICS.

CENTRAL Rule, a rule diſcovered by Mr Thomas Baker, whereby to find the centre of a circle deſigned to cut the parabola in as many points as an equation to be conſtructed hath real roots. Its principal uſe is in the conſtruction of equations, and he hath applied it with good ſucceſs as far as biquadratics.

The central rule is chiefly founded on this property of the parabola, that, if a line be inſcribed in that curve perpendicular to any diameter, a rectangle formed of the ſegments of the inſcript is equal to the rectangle of the intercepted diameter and parameter of the axis.

The central rule has the advantage over Cartes and De Latere's methods of conſtructing equations, in that both theſe are ſubject to the trouble of preparing the equation by taking away the ſecond term.

CENTRIFUGAL FORCE, that force by which all bodies that move round any other body in a curve endeavour to fly off from the axis of their motion in a tangent to the periphery of the curve, and that in every part of it. See MECHANICS.

CENTRIFUGAL-Machine, a very curious machine, invented by Mr Erſkine, for raiſing water by means of a centrifugal force combined with the preſſure of the atmoſphere.

It conſiſts of a large tube of copper, *&c.* in the form of a croſs, which is placed perpendicular in the water, and reſts at the bottom on a pivot. At the upper part of the tube is a horizontal cog-wheel, which touches the cogs of another in a vertical poſition; ſo that by the help of a double winch, the whole machine is moved round with very great velocity.

Near the bottom of the perpendicular part of the tube is a valve opening upwards; and near the two extremities, but on the contrary ſides of the arms, or croſs part of the tube, are two other valves opening outwards. Theſe two valves are, by the aſſiſtance of ſprings, kept ſhut till the machine is put in motion, when the centrifugal velocity of the water forces them open, and diſcharges itſelf into a ciſtern or reſervoir placed there for that purpoſe.

On the upper part of the arms are two holes, which

are

Centrifugal

are closed by pieces screwing into the metal of the tube. Before the machine can work, these holes must be opened, and water poured in through them, till the whole tube be full: by this means all the air will be forced out of the machine, and the water supported in the tube by means of the valve at the bottom.

The tube being thus filled with water, and the holes closed by their screw caps, it is turned round by means of the winch, when the water in the arms of the tube acquires a centrifugal force, opens the valves near the extremities of the arms, and flies out with a velocity nearly equal to that of the extremities of the said arms.

The above description will be very easily understood by the figure we have added on Plate CXXXVI. which is a perspective view of the centrifugal machine, erected on board a ship. ABC is the copper tube. D, a horizontal cog-wheel, furnished with twelve cogs. E, a vertical cog-wheel, furnished with thirty-six cogs. F, F, the double winch. *a*, the valve near the bottom of the tube. *b*, *b*, the two pivots on which the machine turns. *c*, one of the valves in the cross-piece; the other at *d*, cannot be seen in this figure, being on the other side of the tube. *e*, *e*, the two holes through which the water is poured into the machine. GH, the cistern or reservoir. I, I, part of the ship's deck. The distance between the two valves, *c*, *d*, is six feet. The diameter of these valves is about three inches; and that of the perpendicular tube about seven inches.

If we suppose the men who work the machines can turn the winch round in three seconds, the machine will move round its axis in one second; and consequently each extremity of the arms will move with a velocity of 18.8 feet in a second. Therefore a column of water of three inches diameter will issue through each of the valves with a velocity of 18.8 feet in a second: but the area of the aperture of each of the valves is 7.14 inches; which being multiplied by the velocity in inches = 225.6, gives 1610.784 cubic inches, the quantity of water discharged through one of the apertures in one second; so that the whole quantity discharged in that space of time through both the apertures is = 3221.568 inches; or 193294.08 cubic inches in one minute. But 60812 cubic inches make a tun, beer-measure; consequently, if we suppose the centrifugal machine revolves round its axis in one second, it will raise nearly 3 tuns 44 gallons in one minute: but this velocity is certainly too great, at least to be held for any considerable time; so that, when this and other deficiencies in the machine are allowed for, two tuns is nearly the quantity that can be raised by it in one minute.

It will perhaps be unnecessary to observe, that as the water is forced up the perpendicular tube by the pressure of the atmosphere, this machine cannot raise water above 32 feet high.

An attempt was made to substitute this machine in place of the pumps commonly used on ship-board, but the labour of working was found to be so great as to render the machine inferior to the chain-pump. A considerable improvement, we apprehend, would be, to load with a weight of lead the ends of the tubes thro' which the water issues, which would make the machine turn with a great deal more ease, as the centrifugal force of the lead would in some measure act the part of a fly.

Centripetal || Centurion.

CENTRIPETAL force, that force by which a body is every where impelled, or any how tends, towards some point as a centre. See MECHANICS.

CENTRISCUS, in ichthyology, a genus of fishes belonging to the order of amphibia nantes. The head gradually ends in a narrow snout, the aperture is broad and flat; the belly is carinated; and the belly-fins united. There are two species, viz. 1. The scutatus has its back covered with a smooth bony shell, which ends in a sharp spine under which is the tail; but the back fins are between the tail and the spine. It is a native of the East Indies. 2. The scolopax has a rough scabrous body, and a straight extended tail. It has two belly-fins, with four rays in each, and has no teeth. It is found in the Mediterranean.

CENTRONIA, in natural history, a name by which the echini marini have been lately distinguished. Dr Hill makes them a distinct class of animals living under the defence of shelly coverings formed of one piece, and furnished with a vast number of spines moveable at the creature's pleasure.

CENTUMCELLÆ, (anc. geog.), Trajan's villa in Tuscany, on the coast, three miles from Algæ; with an excellent port, called *Trajanus Portus*, (Ptolemy); and a factitious island at the mouth of the port, made with a huge block of stone, on which two turrets rose, with two entrances into the bason or harbour, Rutilius. Now *Civita Vecchia*. E. Long. 12. 30. N. Lat. 42.

CENTUMVIRI, in Roman antiquity, judges appointed to decide common causes among the people: they were chosen, three out of each tribe; and though five more than an hundred, were nevertheless called *centumviri*, from the round number *centum*, an hundred.

CENTUNCULUS, in botany: A genus of the monogynia order, belonging to the tetrandria class of plants; and in the natural method ranking under the 30th order, *Rutaceæ*. The calyx is quadrifid; the corolla quadrifid, and patent; the stamina are short; the capsule is unilocular, cut round, or partiog horizontally.

CENTURION, among the Romans, an officer in the infantry, who commanded a century, or an hundred men.

In order to have a proper notion of the centurions, it must be remembered, that every one of the thirty manipuli * in a legion was divided into two *ordines*, or ranks; and consequently the three bodies of the hastati, principes, and triarii, into 20 orders a piece, as into 10 manipuli. Now, every manipulus was allowed two centurions, or captains, one to each order or century: and, to determine the point of priority between them, they were created at two different elections. The 30 who were made first always took the precedency of their fellows; and therefore commanded the right-hand orders, as the others did the left. The triarii, or *pilani*, so called from their weapon the *pilum*, being esteemed the most honourable, had their centurions elected first, next to them the principes, and afterwards the hastati; whence they were called *primus et secundus pilus*, *primus et secundus princeps*, *primus et secundus hastatus*; and so on. Here it may be observed, that *primi ordines* is sometimes used in historians for the centu-

* See *Manipulus*.

Centurion ‖ Century.

rions of theſe orders; and the centurions are ſometimes ſtyled *principes ordinum*, and *principes centurionum*. We may take notice too what a large field there lay for promotion: firſt through all the orders of the haſtati; then quite through the principes; and afterwards from the laſt order of the triarii to the primipilus, the moſt honourable of the centurions, and who deſerves to be particularly deſcribed. This officer, beſides his title of primipilus, went under the ſeveral titles of *dux legionis*, *præfectus legionis*, *primus centurionum*, and *primus centurio*; and was the firſt centurion of the triarii in every legion. He preſided over all the other centurions, and generally gave the word of command by order of the tribunes. Beſides this, he had the care of the eagle, or chief ſtandard, of the legion: hence, *aquile præeſſe*, is to bear the dignity of primipilus; and hence *aquila* is taken by Pliny for the ſaid office. Nor was this ſtation only honourable, but very profitable too: for he had a ſpecial ſtipend allowed him, probably as much as a knight's eſtate; and, when he left that charge, was reputed equal to the members of the equeſtrian order, bearing the title of *primipilarius*, in the ſame manner as thoſe who had diſcharged the greateſt civil offices were ſtyled ever after, *conſulares*, *cenſorii*, &c.

CENTURIPÆ, Centoripa, or Centuripa, (anc. geog.), a town in the ſouth-weſt of the territory of Etna, on the river Cyamaſorus: Now *Centorbi*, or *Centuripi*. It was a democratical city, which, like Syracuſe, received its liberty from Timoleon. Its inhabitants cultivated the fine arts, particularly ſculpture and engraving. In digging for the remains of antiquities, cameos are no where found in ſuch abundance as at Centuripi and its environs. The ſituation of the place is romantic: it is built on the ſummit of a vaſt group of rocks, which was probably choſen as the moſt difficult of acceſs, and conſequently the propereſt in times of civil commotion. The remains ſtill exiſting of its ancient bridge are a proof of its having been a conſiderable city. Cicero ſpeaks of it as ſuch. It was taken by the Romans, plundered and oppreſſed by Verres, deſtroyed by Pompey, and reſtored by Octavius, who made it the reſidence of a Roman colony.

CENTURY, in a general ſenſe, any thing divided into, or conſiſting of, an hundred parts.

The marquis of Worceſter publiſhed a *Century* of inventions, (for a ſpecimen of which, ſee Acoustics, n° 27,); and Dr Hooke has given a *decimate* of inventions, as part of a *Century*, of which he affirmed himſelf maſter. It is remarkable, that both in the century of the former, and the decimate of the latter, we find the principle on which Savary's fire or ſteam engine is founded. See *Steam-Engine*.

Century in antiquity. The Roman people, when they were aſſembled for the electing of magiſtrates, enacting of laws, or deliberating upon any public affair, were always divided into centuries, and voted by centuries, in order that their votes might be the more eaſily collected, whence theſe aſſemblies were called *comitia centuriata*. The Roman cohorts were alſo divided into centuries. See Centurion and Cohort.

Century, in chronology, the ſpace of one hundred years. This method of computing by centuries is generally obſerved in church hiſtory, commencing from the time of our Saviour's incarnation: in which ſenſe we ſay the firſt century, the ſecond century, &c. Centu ‖ Cen

Centuries of Magdeburg, a famous eccleſiaſtical hiſtory, ranged into 13 centuries, carried down to the year 1298, compiled by ſeveral hundred proteſtants of Magdeburg, the chief of whom was Flacius Illyricus.

CENTUSSIS, in Roman antiquity, a coin containing 100 aſſes.

CENTZONTLI, in ornithology, the Mexican name of the *Turdus polyglottus*. See Turdus.

CEODES, in botany: A genus of the dioecia order, belonging to the polygamia claſs of plants. There is no calyx; the corolla is munopetalous, with a ſhort turbinated tube; the ſtamina are ten ſubulated filaments; the antheræ roundiſh.

CEORLES, the name of one of the claſſes or orders into which the people were diſtinguiſhed among the Anglo-Saxons. The ceorles, who were perſons completely free, and deſcended from a long race of freemen, conſtituted a middle claſs between the laborers and mechanics (who were generally ſlaves, or deſcended from ſlaves) on the one hand, and the nobility on the other. They might go where they pleaſed, and purſue any way of life that was moſt agreeable to their humour; but ſo many of them applied to agriculture, and farming the lands of the nobility, that a ceorl was the moſt common name for a huſbandman or farmer in the Anglo-Saxon times. Theſe ceorls, however, ſeem in general to have been a kind of gentlemen farmers; and if any one of them proſpered ſo well as to acquire the property of five hydes of land, upon which he had a church, a kitchen, a bell-houſe, and great gate, and obtained a ſeat and office in the king's court, he was eſteemed a nobleman or thane. If a ceorl applied to learning, and attained to prieſt's orders, he was alſo conſidered as a thane; his were-gild, or price of his life, was the ſame, and his teſtimony had the ſame weight in a court of juſtice. When he applied to trade, and made three voyages beyond ſea, in a ſhip of his own, and with a cargo belonging to himſelf, he was alſo advanced to the dignity of a thane. But if a ceorl had a greater propenſity to arms than to learning, trade, or agriculture, he then became the fithcundman, or military retainer, to ſome potent and warlike earl, and was called the *huſcarle* of ſuch an earl. If one of theſe huſcarles acquitted himſelf ſo well as to obtain from his patron either five hydes of land, or a gilt ſword, helmet, and breaſtplate, as a reward of his valour, he was likewiſe conſidered as a thane. Thus the temple of honour ſtood open to theſe ceorls, whether they applied themſelves to agriculture, commerce, letters, or arms, which were then the only profeſſions eſteemed worthy of a freeman.

CEOS, Cea, Cia, or Cos, (anc. geog.); one of the Cyclades, lies oppoſite to the promontory of Achaia called *Sunium*, and is 50 miles in compaſs. This iſland is commended by the ancients for its fertility and richneſs of its paſtures. The firſt ſilk ſtuffs, if Pliny and Solinus are to be credited, were wrought here. Ceos was particularly famous for the excellent figs it produced. It was firſt peopled by Ariſtæus, the ſon of Apollo and Cyrene, who, being grieved for the death of his ſon Actæon, retired from Thebes, at the perſuaſion of his mother, and went over with ſome Thebans

Ceos
ll
Cephalanthus.

bans to Ceos, at that time uninhabited. Diodorus Siculus tells us, that he retired to the iſland of Cos; but the ancients, as Servius obſerves, called both theſe iſlands by the name of Cos. Be that as it will, the iſland of Ceos became ſo populous, that a law prevailed there, commanding all perſons upwards of ſixty to be poiſoned, that others might be able to ſubſiſt; ſo that none above ſixty were to be ſeen in the iſland, being obliged, after they arrived at that age, either to ſubmit to the law, or abandon the country, together with their effects. Ceos had, in former times, four famous cities, *viz.* Julis, Carthæa, Coreſſus, and Prœeſſa. The two latter were, according to Pliny, ſwallowed up by an earthquake. The other two flouriſhed in Strabo's time. Carthæa ſtood on a riſing ground, at the end of a valley, about three miles from the ſea. The ſituation of it agrees with that of the preſent town of Zia, which gives name to the whole iſland. The ruins both of Carthæa and Julis are ſtill remaining; thoſe of the latter take up a whole mountain, and are called by the modern inhabitants Polis, that is, *the city*. Near this place are the ruins of a ſtately temple, with many pieces of broken pillars, and ſtatues of moſt exquiſite workmanſhip. The walls of the city were of marble, and ſome pieces are ſtill remaining above 12 feet in length. Julis was, according to Strabo, the birth-place of Simonides, Bacchylides, Eraſiſtratus, and Ariſto. The Oxford marbles tell us, that Simonides, the ſon of Leoprepis, invented a ſort of artificial memory, the principles of which he explained at Athens, and add, that he was deſcended of another Simonides, who was a poet no leſs renowned than himſelf. One of theſe two poets invented thoſe melancholy verſes which were ſung at funerals, and are called by the Latins *nenie*. Strabo ſays, that the Athenians, having beſieged the city of Julis, raiſed the ſiege, upon advice that the inhabitants had reſolved to murder all the children under a certain age, that uſeful perſons might not be employed in looking after them. Ceos was, with the other Greek iſlands, ſubdued by the Romans, and beſtowed upon the Athenians by Marc Antony the triumvir, together with Ægina, Tinos, and ſome other adjoining iſlands, which were all reduced to one Roman province by Veſpaſian. The iſland is now called *Zea*.

CEPA, the ONION. See ALLIUM.

CEPHALANTHUS, BUTTON-WOOD: A genus of the monogynia order, belonging to the tetrandria claſs of plants; and in the natural method ranking under the 48th order, *Aggregatæ*. There is no common calyx; the proper one is ſuperior, and funnel-ſhaped; the receptacle globoſe and naked, with one dowoy ſeed. There is only one ſpecies, the *Occidentalis*; a deciduous ſhrub, native of north America. It grows to about five or ſix feet high; and is not a very buſhy plant, as the branches are always placed thinly in proportion to the ſize of the leaves, which will grow more than three inches long, and one and a half broad, if the trees are planted in a ſoil they like. The leaves ſtand oppoſite by pairs on the twigs, and alſo ſometimes by threes, and are of a light-green colour: Their upper ſurface is ſmooth; they have a ſtrong nerve running from the footſtalk to the point, and ſeveral others from that on each ſide to the borders: Theſe, as well as the footſtalks, in the autumn dye to a reddiſh colour. The flowers, which are aggregate flowers, properly ſo called, are produced at the ends of the branches, in globular heads, in July. The florets which compoſe theſe heads are funnel-ſhaped, of a yellow colour, and faſtened to an axis which is in the middle.—The cephalanthus is propagated from ſeeds, which we receive from America. Theſe ſhould be ſown as ſoon as they arrive, and there will be a chance of their coming up the firſt ſpring; though they often lie till the ſpring after before they make their appearance. They may be ſown in good garden mould of almoſt any ſoil, if ſomewhat moiſt the better, and ſhould be covered about a quarter of an inch deep. This ſhrub is alſo propagated by layers. If the young ſhoots are laid in autumn, they will have ſtruck good root by the autumn following, and may be then taken up, and ſet in the places where they are deſigned to remain. Cuttings of this tree, alſo, planted in the autumn in a rich, light, moiſt ſoil, will grow: and by that means alſo plenty of theſe plants may be ſoon obtained.

Cephalic
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Cephalenia.

CEPHALIC, in a general meaning, ſignifies any thing belonging to the head.

Cephalic Medicines, are remedies for diſorders of the head. Cordials are comprehended herein, as are alſo whatever promotes a free circulation of the blood through the brain.

Except when the diſorder ariſes from exceſs of heat, or an inflammatory diſpoſition in the head, moiſt topicals ſhould never be uſed; but always dry ones.

To rub the head after it is ſhaved proves an inſtantaneous cure for a cephalalgia, a ſtuffing of the head, and a weakneſs of the eyes, ariſing from a weak and relaxed ſtate of the fibres. And as by every freſh evacuation of the humours their quantity is not only leſſened, but alſo their recrementitious parts derived thither, the more frequently the head is ſhaved, the larger quantity of humour is diſcharged; ſo that the frequent ſhaving of the head and beard is likewiſe a perpetual bliſter; and ſo as much as it is uſeful, it is a cephalic.

Cephalic Vein, in anatomy, creeps along the arm between the ſkin and the muſcles, and divides it into two branches: the external goes down to the wriſt, where it joins the baſilica, and turns up to the back of the hand; the internal branch, together with a ſmall one of the baſilica, makes the mediana.

The ancients uſed to open this vein for diſorders of the head, for which reaſon it bears this name; but a better acquaintance with the circulation of the blood informs us, that there is no foundation for ſuch a notion.

CEPHALENIA, or CEPHALLENIA, an iſland of the Ionian ſea between Ithaca and Zacynthus, known in Homer's time by the names of Samus and Epirus Melæna, is about eighty miles in length, forty in breadth, and a hundred and thirty in compaſs. It had anciently four cities, one of which bore the name of the iſland. Strabo tells us, that in his time there were only two cities remaining; but Pliny ſpeaks of three; adding, that the ruins of Same, which had been deſtroyed by the Romans, were ſtill in being. Same was the metropolis of the iſland, and is ſuppoſed to have ſtood in the place which the Italians call Porto Guiſcardo. The names of the four cities were, according

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Cephalonia ‖ Ceratocarpus.

ing to Thucydides, Same, Prone, Cranii, and Palæ. This iſland was ſubdued by the Thebans, under the conduct of Amphitryo, who is ſaid to have killed Pterelas, who then reigned here. While Amphitryo was carrying on the war in Cephalenia, then called Samos, one Cephalus, a man of great diſtinction at Athens, having accidentally killed his wife Procris in ſhooting at a deer, fled to Amphitryo, who, pitying his caſe, not only received him kindly, but made him governor of the iſland, which thenceforth was called Cephalenia. After it had been long in ſubjection to the Thebans, it fell under the power of the Macedonians, and was taken from them by the Ætolians, who held it till it was reduced by M. Fulvius Nobilior, who, having gained the metropolis after a four months ſiege, ſold all the citizens for ſlaves, adding the whole iſland to the dominions of his republic. Now called Cephalonia.

CEPHALONIA, the capital of an iſland of the ſame name, ſituated in the Mediterranean, near the coaſt of Epirus, and ſubject to the Venetians. E. Long. 21. N. Lat. 30. 30.

CEPHEUS, in fabulous hiſtory, a king of Arcadia, on whoſe head Minerva faſtening one of Meduſa's hairs, he was rendered invincible.

Cepheus, in aſtronomy, a conſtellation of the northern hemiſphere. See Astronomy, n° 406.

CERAM, an iſland in the Indian ocean, between the Moluccas iſlands on the north, and thoſe of Amboina and Banda on the ſouth, lying between E. Long. 126. and 129. in S. Lat. 3. It is about 150 miles long, and 60 broad; and here the Dutch have a fortreſs, which keeps the natives in ſubjection.

CERAMBYX, in zoology, a genus of inſects of the beetle kind, belonging to the order of inſecta coleopatera. The antennæ are long and ſmall; the breaſt is ſpinous or gibbous; and the elytra are linear. There are no leſs than 83 ſpecies enumerated by Linnæus, principally diſtinguiſhed by the figure of the breaſt.

CERASTES, in zoology, the trival name of a ſpecies of Anguis and Coluber.

CERASTIUM, mouse-ear: A genus of the pentagynia order, belonging to the decandria claſs of plants; and in the natural method ranking under the 22d order, *Caryophyllea*. The calyx is pentaphyllous; the petals are bifid; the capſule is unilocular, and opening at the top. There are 16 ſpecies, but none of them poſſeſſed of any remarkable property.

CERASUS, in botany. See Prunus.

CERATE, in pharmacy, a thickiſh kind of ointment, applied to ulcerations, excoriations, &c. See Pharmacy, *Index*.

CERATION, the name given by the ancients to the ſmall ſeeds of Ceratonia, uſed by the Arabian phyſicians as a weight to adjuſt the doſes of medicines; as the grain weight with us took its riſe from a grain of barley.

Ceration, or *ceratium*, was alſo a ſilver coin, equal to one third of an obolus.

CERATOCARPUS, in botany: A genus of the monandria order, belonging to the monœcia claſs of plants; and in the natural method ranking under the 12th order, *Holoracea*. The male calyx is bipartite; there is no corolla; the filament is long: The female calyx is diphyllous, and grown to the germen; there is no corolla; the ſtyles are two; the ſeed is two-horned and compreſſed.

Ceratonia ‖ Cerauna.

CERATONIA, the Carob Tree, or *St John's-bread*: A genus of the polyæcia order, belonging to the polygamia claſs of plants; and in the natural method ranking under the 33d order, *Lomentacea*. The calyx is hermaphrodite and quinquepartite; there is no corolla; the ſtamina are five; the ſtyle is filiform; the legumen coriaceous and polyſpermous. It is alſo dioecious, or male and female diſtinct on different plants. There is but one ſpecies, the ſiliqua, a native of Spain, of ſome parts of Italy, and the Levant. It is an ever-green; and, in the countries where it is native, grows in the hedges. It produces a quantity of long, flat, brown-coloured pods, which are thick, meally, and of a ſweetiſh taſte. Theſe pods are many times eaten by the poorer ſort of inhabitants when there is a ſcarcity of other food; but they are apt to looſen the belly, and cauſe gripings of the bowels. They are called *St John's-bread*, from an ill-founded aſſertion of ſome writers on Scripture, that theſe pods were the locuſts St John eat with his honey in the wilderneſs. The tree may be propagated in this country from ſeeds, which are to be ſown in a moderate hot-bed, and the plants inured to the open air by degrees.

CERATOPHYLLUM, in botany: A genus of the polyandria order, belonging to the monœcia claſs of plants; and in the natural method ranking under the 15th order, *Inundata*. The male calyx is multipartite; no corolla; ſtamina from 16 to 20: The female calyx is multipartite; no corolla; one piſtil; no ſtyle; one naked ſeed.

CERAUNIA, Ceraunias, or Ceraunius *Lapis*, in natural hiſtory, a ſort of flinty ſtone, of no certain colour, but of a pyramidal or wedge-like figure; popularly ſuppoſed to fall from the clouds in the time of thunder-ſtorms, and to be poſſeſſed of divers notable virtues, as promoting ſleep, preſerving from lightning, &c. The word is from the Greek κεραυνὸς, *thunderbolt*. The ceraunia is the ſame with what is otherwiſe called the thunder-ſtone, or thunder-bolt; and alſo ſometimes *ſagitta*, or arrow's-head, on account of its ſhape. The ceraunia are frequently confounded with the ombriæ and brontiæ, as being all ſuppoſed to have the ſame origin. The generality of naturaliſts take the ceraunia for a native ſtone, formed among the Pyrites, of a ſaline, concrete, mineral juice. Mercatus and Dr Woodward aſſert it to be artificial, and to have been faſhioned thus by tools. The ceraunia, according to theſe authors, are the heads of the ancient weapons of war, in uſe before the invention of iron; which, upon the introduction of that metal, growing into diſuſe, were diſperſed in the fields through this and that neighbouring country. Some of them had poſſibly ſerved in the early ages for axes, others for wedges, others for chiſſels; but the greater part for arrow-heads, darts, and lances. The ceraunia is alſo held by Pliny for a white or cryſtal-coloured gem, that attracted lightning to itſelf. What this was, is hard to ſay. Prudentius alſo ſpeaks of a yellow ceraunia; by which he is ſuppoſed to mean the carbuncle or pyropus.

CERBERA, in botany: A genus of the monogy-

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Cerberus ‖ Cercis

nia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 30th order, *Contortæ*. The fruit is a monoſpermous plum. The moſt remarkable ſpecies is the *atroueir*, a native of the warm parts of America. It riſes with an irregular ſtem to the height of eight or ten feet, ſending out many crooked diffuſed branches, which towards their tops are garniſhed with thick ſucculent leaves of a lucid green, ſmooth, and very full of a milky juice. The flowers come out in looſe bunches at the end of the branches; they are of a cream colour, having long narrow tubes, and at the top are cut into five obtuſe ſegments, which ſeem twiſted, ſo as to ſtand oblique to the tube. The wood of this tree ſtinks moſt abominably, and the kernels of the nuts are a deadly poiſon to which there is no antidote; ſo that the Indians will not even uſe the wood for fuel.

CERBERUS, in fabulous hiſtory, a dreadful three-headed maſtiff, born of Typhon and Echidna, and placed to guard the gates of hell. He fawned upon thoſe who entered, but devoured all who attempted to get back. He was, however, maſtered by Hercules, who dragged him up to the earth, when, in ſtruggling, a foam dropped from his mouth, which produced the poiſonous herb called *aconite* or *wolf's-bane*.

Some have ſuppoſed that Cerberus is the ſymbol of the earth, or of all-devouring time; and that its three mouths repreſent the preſent, paſt, and future. The victory obtained by Hercules over this monſter, denotes the conqueſt which this hero acquired over his paſſions. Dr Bryant ſuppoſes that Cerberus was the name of a place, and that it ſignified the temple of the Sun; deriving it from *Kir-Abor*, *the place of light*. This temple was alſo called *Tor-Coph-El*, which was changed to τριπυργιαι; and hence Cerberus was ſuppoſed to have had three heads. It was likewiſe called *Tor-Keren*, *Turris Regia*; whence τρι καρηνος, from τρεις, *three*, and καρηνον, *head*.

CERCELE, in heraldry: a croſs cercele is a croſs which, opening at the ends, turns round both ways like a ram's horn. See Croſs.

CERCIS, the Judas-tree: A genus of the monogynia order, belonging to the decandria claſs of plants; and in the natural method ranking under the 33d order, *Lomentaceæ*. The calyx is quinquedentated, and gibbous below; the corolla papilionaceous, with a ſhort vexillum or flag-petal under the wings or ſide-petals; a leguminous plant. There are only two ſpecies, both deciduous.

1. The ſiliquaſtrum, common Judas-tree, or Italian cercis, a native of Italy and other parts of the ſouth of Europe.—Theſe differ in the height of their growth in different places: In ſome they will arrive to be fine trees, of near twenty feet high; whilſt in others they will not riſe to more than ten or twelve feet, ſending forth young branches irregularly from the very bottom. The ſtem of this tree is of a dark-greyiſh colour, and the branches, which are few and irregular, have a purpliſh caſt. The leaves are ſmooth, heart-ſhaped, and roundiſh, of a pleaſant green on their upper ſurface, hoary underneath, and grow alternately on long footſtalks. The flowers are of a fine purple: They come out early in the ſpring, in cluſters, from the ſide of the branches, growing upon ſhort footſtalks; and in ſome ſituations they are ſucceeded by long flat pods, containing the ſeeds, which, in very favourable ſeaſons, ripen in England. Some people are fond of eating theſe flowers in ſallads, on which account alone in ſome parts this tree is propagated. The varieties of this ſpecies are, 1. The Fleſh-coloured; 2. The White-flowered; and, 3. The Broad-podded Judas-tree. Cercis.

2. The Canadenſis, or Canadian cercis, will grow to the ſize of the firſt ſort in ſome places. The branches are alſo irregular. The leaves are cordated, downy, and placed alternately. The flowers uſually are of a paliſh red colour, and ſhow themſelves likewiſe in the ſpring, before the leaves are grown to their ſize. Theſe too are often eaten in ſallads, and afford an excellent pickle. There is a variety of this with deep red, and another with purple flowers. The pleaſure which theſe trees will afford in a plantation may be eaſily conceived, not only as they exhibit their flowers in cluſters, in different colours, early in the ſpring, before the leaves are grown to ſuch a ſize as to hide them; but from the difference of the upper and lower ſurface of the leaves; the one being of a fine green, the other of a hoary caſt; ſo that on the ſame tree, even in this reſpect, is ſhown variety; an improvement whereof is made by the waving winds, which will preſent them alternately to view.

Propagation. As theſe ſpecies will not take root by layers, they muſt be propagated by ſeeds, which may be had from abroad. They are generally brought as ſound and good, and may be ſown in the months of February or March. Making any particular compoſt for their reception is unneceſſary; common garden mould, of almoſt every ſort, will do very well: And this being well dug, and cleared of all roots, weeds, &c. lines may be drawn for the beds. The mould being fine, part of it ſhould be taken out, and ſifted over the ſeeds, after they are ſown, about half an inch thick. Part of the ſeeds will come up in the ſpring, and the others will remain until the ſpring following; ſo that whoever is deſirous of drawing the ſeedlings of a year old to plant out, muſt not deſtroy the bed, but draw them carefully out, and after that there will be a ſucceeding crop. However, be this as it will, the ſeeds being come up, they muſt be weeded, and encouraged by watering in the dry ſeaſon; and they will require no farther care during the firſt ſummer. In the winter alſo they may be left to themſelves, for they are very hardy; though not ſo much but that the ends of the branches will be killed by the froſt, nay, ſometimes to the very bottom of the young plant, where it will ſhoot out again afreſh in the ſpring. Whoever, therefore, is deſirous of ſecuring his ſeedling-plants from this evil, ſhould have his beds hooped, in order to throw mats over them during the hard froſts. Toward the latter end of March, or beginning of April, the plants having been in the ſeed-bed one or two years, they ſhould be taken out, and planted in the nurſery: The diſtance of one foot aſunder, and two feet in the rows, ſhould be given them. Hoeing the weeds down in the ſummer muſt alſo be allowed, as well as digging between the rows in the winter. Here they may ſtand until they are to be removed finally; but they muſt be gone over in the winter with the knife, and ſuch irregular branches taken off

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Cercopithoci || Cerealia.

as are produced near the root; by which management the tree may be trained up to a regular ſtem. Such, continues Hanburry, is the culture of the ſpecies of cercis; ſorts that are not to be omitted where there are any pretenſions to a collection. Beſides, the wood itſelf is of great value; for it poliſhes exceedingly well, and is admirably veined with black and green.

CERCOPITHECI, in natural hiſtory, the name given by Mr Ray to monkeys, or the claſs of apes with long tails. See APE and SIMIA.

CERDA (John Lewis de la), a learned Jeſuit of Toledo, wrote large commentaries on Virgil, which have been much eſteemed; alſo ſeveral other works. He died in 1643, aged 80.

CERDONIANS, ancient hereties, who maintained moſt of the errors of Simon Magus, Saturninus, and the Manichees. They took their name from their leader *Cerdon*, a Syrian, who came to Rome in the time of pope Hyginus, and there abjured his errors: but in appearance only; for he was afterwards convicted of perſiſting in them, and accordingly caſt out of the church again. Cerdon aſſerted two principles, the one good and the other evil: this laſt, according to him, was the creator of the world, and the god that appeared under the old law. The firſt, whom he called *unknown*, was the father of Jeſus Chriſt; who, he taught, was incarnate only in appearance, and was not born of a virgin; nor did he ſuffer death but in appearance. He denied the reſurrection; and rejected all the books of the Old Teſtament, as coming from an evil principle. Marcion, his diſciple, ſucceeded him in his errors.

CEREALIA, in antiquity, feaſts of Ceres, inſtituted by Triptolemus, ſon of Celeus king of Eleuſine in Attica, in gratitude for his having been inſtructed by Ceres, who was ſuppoſed to have been his ourſe, in the art of cultivating corn and making bread.

There were two feaſts of this kind at Athens; the one called *Eleuſinia*, the other *Theſmophoria*. See the article ELEUSINIA. What both agreed in, and was common to all the *cerealia*, was, that they were celebrated with a world of religion and purity; ſo that it was eſteemed a great pollution to meddle, on thoſe days, in conjugal matters. It was not Ceres alone that was honoured here, but alſo Bacchus. The victims offered were hogs, by reaſon of the waſte they make in the products of the earth: whether there was any wine offered or not, is matter of much debate among the critics. Plautus and Macrobius ſeem to countenance the negative ſide; Cato and Virgil the poſitive. Macrobius ſays, indeed, they did not offer wine to Ceres, but *mulſum*, which was a compoſition of wine and honey boiled up together: that the ſacrifice made on the 21ſt of December to that goddeſs and Hercules, was a pregnant ſow, together with cakes and mulſum; and that this is what Virgil means by *Mili Baccho*. The *cerealia* paſſed from the Greeks to the Romans, who held them for eight days ſucceſſively; commencing, as generally held, on the fifth of the ides of April. It was the women alone who were concerned in the celebration, all dreſſed in white: the men, likewiſe in white, were only ſpectators. They eat nothing till after ſun-ſet; in memory of Ceres, who in her ſearch after her daughter took no repaſt but in the evening.

After the battle of Cannæ, the deſolation was ſo great at Rome, that there were no women to celebrate the feaſt, by reaſon they were all in mourning; ſo that it was omitted that year. Cereals || Ceremony.

CEREALIA, in botany, from *Ceres* the goddeſs of corn; Linnæus's name for the larger eſculent ſeeds of the graſſes: theſe are rice, wheat, rye, barley, oats, millet, panic graſs, Indian millet, holcus, zizania, and maize. To this head may be likewiſe referred darnel, *(lolium)*; which, by preparation, is rendered eſculent.

CEREBELLUM, the hinder part of the head. See ANATOMY, n° 133.

CEREBRUM, the BRAIN. Its ſtructure and uſe are not ſo fully known as ſome other parts of the body, and different authors conſider it in various manners. However, according to the obſervations of thoſe moſt famed for their accuracy and dexterity in anatomical inquiries, its general ſtructure is as given in ANATOMY, n° 132.

Dr Hunter obſerves, that the principal parts of the medullary ſubſtance of the brain in ideots and madmen, ſuch as the *thalami nervorum opticorum*, and *medulla oblongata*, are found entirely changed from a medullary to a hard, tough, dark-coloured ſubſtance, ſometimes reſembling white leather.

CEREMONIAL *(ceremoniale)*, a book in which is preſcribed the order of the ceremonies to be obſerved in certain actions and occaſions of ſolemnity and pomp. The ceremonial of the Roman church is called *ordo Romanus*. It was publiſhed in 1516 by the biſhop of Corcyra; at which the college of cardinals were ſo ſcandalized, that ſome of them voted to have the author as well as book burnt, for his temerity in expoſing the ſacred ceremonies to the eyes of profane people.

CEREMONIAL is alſo uſed for the ſet or ſyſtem of rules and ceremonies which cuſtom has introduced for regulating our behaviour, and which perſons practiſe towards each other, either out of duty, decency, or civility.

CEREMONIAL, in a more particular ſenſe, denotes the manner in which princes and ambaſſadors uſe to receive and to treat one another. There are endleſs diſputes among ſovereigns about the *ceremonials*: ſome endeavouring to be on a level, and others to be ſuperior; inſomuch that numerous ſchemes have been propoſed for ſettling them. The chief are, 1. to accommodate the difference by compromiſe or alternation, ſo that one ſhall precede now, the other the next time; or one in one place, and the other in another: 2. By ſeniority; ſo that an elder prince in years ſhall precede a younger, without any other diſtinction. Theſe expedients, however, have not yet been accepted of by any, except ſome *alternate princes*, as they are called, in Germany.

CEREMONIAL is more particularly uſed in ſpeaking of the laws and regulations given by Moſes relating to the worſhip of God among the ancient Jews. In this ſenſe it amounts to much the ſame with what is called the *Levitical law*, and ſtands contradiſtinguiſhed from the moral as well as judicial law.

CEREMONY, an aſſemblage of ſeveral actions, forms, and circumſtances, ſerving to render a thing more magnificent and ſolemn.

In 1646, M. Ponce publiſhed a hiſtory of ancient ceremonies, tracing the riſe, growth, and introduction

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Maſter of the Ceremonies || Ceres.

of each rite into the church, and its gradual advancement to ſuperſtition therein. Many of them were borrowed from Judaiſm; but more ſeemingly from Paganiſm. Dr Middleton has given a fine diſcourſe on the conformity between the pagan and popiſh ceremonies, which he exemplifies in the uſe of incenſe, holy water, lamps, and candles, before the ſhrines of ſaints, votive gifts or offerings round the ſhrines of the deceaſed, &c. In effect, the altars, images, croſſes, proceſſions, miracles, and legends; nay, even the very hierarchy, pontificate, religious orders, &c. of the preſent Romans, he ſhows, are all copied from their heathen anceſtors.—We have an ample and magnificent account of the religious ceremonies and cuſtoms of all nations in the world, repreſented in figures deſigned by Picart, with hiſtorical explanations, and many curious diſſertations.

Maſter of the CEREMONIES, an officer inſtituted by king James I. for the more honourable reception of ambaſſadors and ſtrangers of quality. He wears about his neck a chain of gold, with a medal under the crown of Great Britain, having on one ſide an emblem of peace, with this motto, *Beati pacifici*; and on the other, an emblem of war, with *Dieu et mon droit*: his ſalary is 300*l. per annum.*

Aſſiſtant Maſter of the CEREMONIES, is to execute the employment in all points, whenſoever the maſter of the ceremonies is abſent. His ſalary is 141*l.* 13*s.* and 4*d. per annum.*

Marſhall of the CEREMONIES is their officer, being ſubordinate to them both. His ſalary is 100*l. per annum.*

CERENZA, a town of Italy in the kingdom of Naples, and in the Hither Calabria, with a biſhop's ſee. It is ſeated on a rock, in E. Long. 17. 5. N. Lat. 39. 23.

CERES, a Pagan deity, the inventor or goddeſs of corn; in like manner as Bacchus was of wine.

According to the poets, ſhe was the daughter of Saturn and Ops, and the mother of Proſerpine, whom ſhe had by Jupiter. Pluto having ſtolen away Proſerpine, Ceres travelled all over the world in queſt of her daughter, by the help of a torch, which ſhe had lighted in Mount Ætna.

As Ceres was thus travelling in ſearch of her daughter, ſhe came to Celeus king of Eleuſis, and undertook to bring up his infant ſon Triptolemus. Being deſirous to render her charge immortal, ſhe fed him in the day-time with divine milk, and in the night covered him with fire. Celeus obſerving an unuſual improvement in his ſon, reſolved to watch his nurſe, to which end he hid himſelf in that part of the houſe where ſhe uſed to cover the child with fire; but when he ſaw her put the infant under the embers, he cried out and diſcovered himſelf. Ceres puniſhed the curioſity and indiſcretion of the father with death. Afterwards ſhe taught the youth the art of ſowing corn and other fruits, and mounted him in a chariot drawn by winged dragons, that he might traverſe the world, and teach mankind the uſe of corn and fruits. After this, having diſcovered, by means of the nymph Arethuſa, that Proſerpine was in the infernal regions, ſhe applied to Jupiter, and obtained of him that Proſerpine ſhould be reſtored, on condition that ſhe had taſted nothing during her ſtay in that place: but it being diſcovered, by the information of Aſcalaphus, that, as ſhe was walking in Pluto's orchard, ſhe had gathered an apple, and had taſted of ſome of the ſeeds, ſhe was for ever forbidden to return. Ceres, out of revenge, turned Aſcalaphus into an owl. At length, Jupiter, to mitigate her grief, permitted that Proſerpine ſhould paſs one half of the year in the infernal regions with Pluto, and the other half with her mother on earth. Ceres || Cerinthus.

Cicero ſpeaks of a temple of Ceres at Catanea in Sicily, where was a very ancient ſtatue of that goddeſs, but entirely concealed from the ſight of men, every thing being performed by matrons and virgins.

CERET, a town of France in Rouſſillon, with a magnificent bridge of a ſingle arch. It is ſeated near the river Tee, in E. Long. 2. 46. N. Lat. 42. 23.

CEREUS, in botany. See CACTUS.

CERIGO, an iſland in the Archipelago, anciently called *Cythera*; noted for being the birth-place of Helen, and, as the poets ſay, of Venus. At preſent, there is nothing very delightful in the place; for the country is mountainous, and the ſoil dry. It abounds in hares, quails, turtles, and excellent falcons. It is about 50 miles in circumference, and had formerly good towns; but there is now none remaining but that which gives name to the iſland. This is ſtrong both by art and nature, it being ſeated on a craggy rock. The inhabitants are Chriſtian Greeks, and ſubject to the Venetians, who keep a governor there, whom they change every two years.

CERINES, a town in the iſland of Cyprus, with a good caſtle, an harbour, and a biſhop's ſee. E. Long. 33. 35. N. Lat. 35. 22.

CERINTHE, HONEYWORT: A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 41ſt order, *Aſperifoliæ*. The limb of the corolla is a ventricoſe tube with the throat pervious; and there are two bilocular ſeeds. There are three ſpecies, natives of Germany, Italy, and the Alps. They are low annual plants with purple, yellow, and red flowers, which may be propagated by ſeed ſown in autumn, in a warm ſituation.

CERINTHIANS, ancient heretics, who denied the deity of Jeſus Chriſt.—They took their name from Cerinthus, one of the firſt hereſiarchs in the church, being cotemporary with St John. See CERINTHUS.

They believed that Jeſus Chriſt was a mere man, born of Joſeph and Mary; but that, in his baptiſm, a celeſtial virtue deſcended on him in form of a dove; by means whereof he was conſecrated by the holy ſpirit, and made Chriſt. It was by means of this celeſtial virtue, therefore, that he wrought ſo many miracles; which, as he received it from heaven, quitted him after his paſſion, and returned to the place whence it came; ſo that Jeſus, whom they called a *pure man*, really died and roſe again; but that Chriſt, who was diſtinguiſhed from Jeſus, did not ſuffer at all. It was partly to refute this ſect, that St John wrote his goſpel. They received the goſpel of St Matthew, to countenance their doctrine of circumciſion, from Chriſt's being circumciſed; but they omitted the genealogy. They diſcarded the epiſtles of St Paul, becauſe that apoſtle held circumciſion abuliſhed.

CERINTHUS, a hereſiarch, cotemporary with the apoſtles,

Ceropegia, Certhia.

apoſtles, aſcribed the creation not to God, but to angels. He taught that Jeſus Chriſt was the ſon of Joſeph; and that circumciſion ought to be retained under the goſpel. He is looked upon as the head of the converted Jews, who raiſed in the church of Antioch the tumult of which St Luke has given the hiſtory in the 15th chapter of the Acts. Some authors aſcribe the book of the apocalypſe to Cerinthus; adding, that he put it off under the name of St John, the better to authoriſe his reveries touching Chriſt's reign upon earth: and it is even certain that he publiſhed ſome works of this kind under the title of *Apocalypſe*. See APOCALYPSE.

CEROPEGIA, in botany: A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 30th order, *Contortæ*. There are two erect follicles; the ſeeds plumoſe or covered with a feathered pappos; the limb of the corolla connivent or cloſing at top.

Plate CXXV.

CERTHIA, in ornithology, the CREEPER or OX-EYE, a genus belonging to the order of picæ. The beak is arched, ſlender, ſharp, and triangular; the tongue is ſharp at the point; and the feet are of the walking kind, *i. e.* having the toes open and unconnected. Of this genus near 50 ſpecies have been enumerated by ornithologiſts; but Mr Latham ſuppoſes that many now deſcribed as ſpecies, will be found hereafter to be mere varieties; which, he adds, is no wonder, ſince many creepers do not gain their full plumage till the third year's moult. The following are a few of the moſt remarkable:

1. The familiaris, or common ox-eye, is grey above, and white underneath, with brown wings and ten white ſpots on the ten prime feathers. This bird is found in moſt parts of Europe, though it is believed no where ſo common as in Britain. It may be thought more ſcarce than it really is by the leſs attentive obſerver; for, ſuppoſing it on the body or branch of any tree, the moment it obſerves any one, it gets to the oppoſite ſide, and ſo on, let a perſon walk round the tree ever ſo often. The facility of its running on the bark of a tree, in all directions, is wonderful: This it does with as much eaſe as a fly on a glaſs window. Its food is principally, if not wholly, inſects, which it finds in the chinks and among the moſs of trees. It builds its neſt in ſome hole of a tree, and lays generally five eggs, very rarely more than ſeven: theſe are aſh-coloured, marked at the end with ſpots and ſtreaks of a deeper colour; and the ſhell is obſerved to be pretty hard. It remains in the places which it frequents during the winter, and builds its neſt early in the ſpring.

2. The hook-billed green creeper has a bill an inch and three quarters long, and bent quite in the ſhape of a ſemicircle; the plumage in general is olive green, paleſt beneath, and ſomewhat inclined to yellow: the quills and tail are duſky; the legs duſky brown; and the feathers juſt above the knee, or garter, white. It inhabits the Sandwich Iſlands in general, and is one of the birds whoſe plumage the natives make uſe of in conſtructing their feathered garments; which, having theſe olive-green feathers intermixed with the beautiful ſcarlet and yellow ones belonging to the next ſpecies, and yellow-tufted Bee-eater*, make ſome of the moſt beautiful coverings of theſe iſlanders.

* See Merops.

3. The hook-billed red creeper has the bill ſomewhat leſs hooked than the laſt ſpecies; the general colour of the plumage is ſcarlet; wings and tail black. In ſome birds the forehead is of a buff-colour; and the parts about the head and neck have both a mixture of buff and duſky black, which are ſuſpected to be the birds not yet arrived at their full plumage. Certhia.

4. The puſilla, or brown and white creeper, according to Edwards, is not above half the ſize of our European creeper. The upper part of the body is brown, with a changeable gloſs of copper: the under parts are white; the quills brown, edged with gloſſy copper; the tail blackiſh, the outer feather tipped with white. The bird from which Edwards drew his figure had a label tied to it, by the name of Honey-thief. And that they are fond of honey is manifeſt, from thoſe who keep birds at the Cape of Good Hope having many ſorts in large cages, and ſupplying them with only honey and water; but beſides this, they catch a great many flies, which come within the reach of their confinement; and theſe two make up their whole ſubſiſtence; indeed, it has been attempted to tranſport them further, but the want of flies on board a ſhip prevented them living more than three weeks; ſo neceſſary are inſects to their ſubſiſtence.

5. The Loteni, or Loten's creeper, has the head, neck, back, rump, ſcapulars, and upper tail-coverts, of green gold: beneath, from the breaſt to the vent, of velvet black, which is ſeparated from the green on the neck by a tranſverſe bright violet band, a line and half in breadth: the leſſer wing coverts are of this laſt colour; the middle coverts are green gold; and the greater coverts are very fine black, edged with green gold on the outer edge: the quills are of the ſame colour, as are alſo the tail feathers. The female differs in having the breaſt, belly, ſides, thighs, under wing and tail coverts, of a dirty white, ſpotted with black; and the wings and tail not of ſo fine a black. It inhabits Ceylon, and Madagaſcar; and is called Angaladian.

Buffon tells us, that it makes its neſt of the down of plants, in form of a cup, like that of a chaffinch. the female laying generally five or ſix eggs; and that it is ſometimes chaſed by a ſpider as large as itſelf, and very voracious, which ſeizes on the whole brood, and ſucks the blood of the young birds.

6. The cærulea, or blue creeper, has the head of a moſt elegant blue; but on each ſide there is a ſtripe of black like velvet, in which the eye is placed: the chin and throat are marked with black in the ſame manner; the reſt of the body violet blue. It inhabits Cayenne. Seba ſays, that it makes its neſt with great art. The outſide is compoſed of dry ſtalks of graſs, or ſuch like; but within of very downy ſoft materials, in the ſhape of a retort, which it ſuſpends from ſome weak twig, at the end of a branch of a tree; the opening or mouth downwards, facing the ground: the neck is a foot in length, but the real neſt is quite at the top, ſo that the bird has to climb up this funnel-like opening to get at the neſt. Thus it is ſecure from every harm; neither monkey, ſnake, nor lizard, daring to venture at the end of the branch, as it would not ſteadily ſupport them.

7. The cardinal creeper, (*Lev. Muſ.*), has the head, neck, and breaſt, of crimſon colour; down the middle of

Certificate. of the back is a ſtripe of the ſame colour to the rump: the reſt of the body is black; and the wings and tail are black. It inhabits the cultivated parts of the iſland of Tanna; is there called Kuyameta, and lives by ſucking the nectar of flowers.

8. The mocking creeper is of the ſize of the leſſer thruſh. On the cheeks is a narrow white ſpot: the head, eſpecially on the crown, is inclined to violet: the plumage in general is olive green, inclining to yellow on the under parts: the quills are brown; the ſecondaries edged with olive: the colour of the tail is like that of the ſecondaries, and ſomewhat forked: the legs are duſky blue, and the claws black. It inhabits both the iſlands of New Zealand. It has an agreeable note in general; but at times ſo varies and modulates the voice, that it ſeems to imitate the notes of all other birds; hence it was called by the Engliſh the Mocking-bird. This bird being fond of thruſting its head into the boſom of flowers which have a purpliſh-coloured farina, much of it adheres to the feathers about the head and bill, and in courſe gives the appearance above mentioned; but this in time rubs off, and the colour of the head appears the ſame with the reſt of the plumage.

CERTIFICATE *(Trial by)*, in the law of England, a ſpecies of trial allowed in ſuch caſes where the evidence of the perſon certifying is the only proper criterion of the point in diſpute.* For when the fact in queſtion lies out of the cognizance of the court, the judges muſt rely on the ſolemn averment or information of perſons in ſuch a ſtation as affords them the moſt clear and competent knowledge of the truth. As therefore ſuch evidence, if given to a jury, muſt have been concluſive, the law, to ſave trouble and circuity, permits the fact to be determined upon ſuch certificate merely. Thus, 1. If the iſſue be whether A was abſent with the king in his army out of the realm in time of war, this ſhall be tried by the certificate of the mareſchal of the king's hoſt in writing under his ſeal, which ſhall be ſent to the juſtices. 2. If, in order to avoid an outlawry, or the like, it was alleged that the defendant was in priſon, *ultra mare*, at Bourdeanx, or in the ſervice of the mayor of Bourdeaux, this ſhould have been tried by the certificate of the mayor; and the like of the captain of Calais. But when this was law, thoſe towns were under the dominion of the crown of England. And therefore, by a parity of reaſon, it ſhould now hold, that in ſimilar caſes ariſing at Jamaica or Minorca, the trial ſhould be by certificate from the governor of thoſe iſlands. We alſo find that the certificate of the queen's meſſenger, ſent to ſummon home a peereſs of the realm, was formerly held a ſufficient trial of the contempt in refuſing to obey ſuch ſummons. 3. For matters within the realm; the cuſtoms of the city of London ſhall be tried by the certificate of the mayor and aldermen, certified by the mouth of their recorder; upon a ſurmiſe from the party alleging it, that the cuſtom ought to be thus tried: elſe it muſt be tried by the country. As, the cuſtom of diſtributing the effects of freemen deceaſed; of enrolling apprentices; or that he who is free of one trade may uſe another; if any of theſe, or other ſimilar points come in iſſue. 4. The trial of all cuſtoms and practiſe of the courts ſhall be by certificate from the proper officers of thoſe courts reſpectively; and what return was made on a writ by the ſheriff or under-ſheriff, ſhall be only tried by his own certificate.

* See *Trial.*

Blackſt. Comment.

Certiorari || Cervical veſſels.

CERTIORARI, in law, a writ which iſſues out of the chancery, directed to an inferiur court, to call up the records of a cauſe there depending, in order that juſtice may be done. And this writ is obtained upon complaint, that the party who ſeeks it has received hard uſage, or is not like to have an impartial trial in the inferior court. A certiorari is made returnable either in the king's beneh, eummon pleas, ur in chancery.

It is not only iſſued out of the court of chancery, but likewiſe out of the king's beneh, in which laſt mentioned court it lies where the king wuuld be certified of a record. Indictments from inferior courts, and proceedings of the quarter-ſeſſions of the peace, may alſo be removed iuto the king's beneh hy a certiorari: and here the very record muſt be returned, and not a tranſcript of it; thuugh uſually in chancery, if a certiorari be returnable there, it removes only the tenor of the record.

CERTITUDE, conſidered in the things or ideas which are the objects of our underſtanding, is a neceſſary agreement or diſagreement of one part of our knowledge with another: as applied to the mind, it is the perception of ſuch agreement or diſagreement; or ſuch a firm well-grounded aſſent, as excludes not only all manner of doubt, but all cunceivable poſſibility of a miſtake.

There are three ſorts of certitude, or aſſurance, according to the different natures and circumſtances of things. 1. A phyſical or natural certitude, which depends upon the evidence of ſenſe; as that I ſee ſuch or ſuch a colour, or hear ſuch or ſuch a ſound; no body queſtions the truth of this, where the organs, the medium, and the object, are rightly diſpoſed. 2. Mathematical certitude is that ariſing from mathematical evidence; ſuch is, that the three angles of a triangle are equal to two right ones. 3. Moral certitude is that founded on moral evidence, and is frequently equivalent to a mathematical one; as that there was formerly ſuch an emperor as Julius Cæſar, and that he wrote the commentaries which paſs under his name; becauſe the hiſtorians of theſe times have recorded it, and no man has ever diſproved it ſince: this affords a moral certitude, in common ſenſe ſo great, that one would be thought a fool or a madman for denying it.

CERTOSA, a celebrated Carthuſian monaſtery, in the territory of the Paveſe, in the duchy of Milan, four miles from Pavia; its park is ſurrounded with a wall 20 miles in circumference; but there are ſeveral ſmall towns and villages therein.

CERVANTES. See Saavedra.

CERVERA, a town of Spain, in Cataluuia, ſeated on a ſmall river uf the ſame name, in E. Long. 1. 9. N. Lat. 41. 28.

CERVIA, a ſea-port town of Italy, in Romagna, with a biſhop's ſee, ſeated on the gulph of Veniee, iu E. Long. 13. 5. N. Lat. 44. 16.

CERVICAL NERVES, are ſeven pair of nerves, ſo called, as having their origin in the *cervix*, or neck.

Cervical Veſſels, among anatomiſts, denote the arteries, veins, &c. which paſs through the *vertebræ* and muſcles of the neck, up to the ſkull.

Cervix
||
Cervus.

CERVIX, in anatomy, properly denotes the hind part of the neck; as contradiſtinguiſhed from the fore part, which is called *jugulum*, or the throat.

Cervix of the *Scapula*, denotes the head of the ſhoulder-blade, or that upper proceſs whoſe *ſinus* receives the head of the *humerus*.

Cervix of the *Uterus*, the neck of the *uterus*, or that oblong canal, or paſſage between the internal and external orifices, which receives and incloſes the *penis* like a ſheath, whence it is alſo called VAGINA.

CERUMEN, a thick, viſcous, bitter, excrementitious humour, ſeparated from the blood by proper glands placed in the *meatus auditorius*, or outer paſſage of the ear.

CERUSS, WHITE-LEAD, a ſort of calx of lead, made by expoſing plates of that metal to the vapour of vinegar. See CHEMISTRY-*Index*.

Ceruſs, as a medicine, is uſed externally either mixed in ointments, or by ſprinkling it on old gleeting and watery ulcers, and in many diſeaſes of the ſkin. If, when it is reduced into a fine powder, it is received in with the breath in inſpiration, and carried down into the lungs, it cauſes incurable aſthmas. Inſtances of the very pernicious effects of this metal are too often ſeen among thoſe perſons who work lead in any form, but particularly among the workers in white-lead.

The painters uſe it in great quantities; and that it may be afforded cheap to them, it is generally adulterated with common whiting.

Plate CXXIX, CXXX, and CXXXI.

CERVUS, or DEER, in zoology, a genus of quadrupeds belonging to the order of Pecora. The horns are ſolid, brittle, covered with a hairy ſkin, and growing from the top; they likewiſe fall off and are renewed annually. There are eight fore-teeth in the under jaw, and they have no dog-teeth. The ſpecies of this genus enumerated by Linnæus are ſeven, *viz.*

1. The Camelopardalis, or Giraffe, with ſimple or unbranched horns, ſtraight, about ſix inches long, covered with hair, and truncated at the end and tufted; in the forehead a tubercle, about two inches high, reſembling a third horn. The fore legs are not much longer than the hind legs; but the ſhoulders are of a vaſt length, which gives the diſproportionate height between the fore and hind parts: the head is like that of a ſtag: the neck is ſlender and elegant, and on the upper ſide is a ſhort mane: the ears are large: tail is long, with ſtrong hairs at the end: the colour of the whole animal a dirty white, marked with large broad ruſty ſpots. This is an uncommon animal, few of them having been ever ſeen in Europe. It inhabits the foreſts of Ethiopia, and other interior parts of Africa, almoſt as high as Senegal; but is not found in Guinea, or any of the weſtern parts; nor farther ſouth than about lat. 28. 10. It is very timid, but not ſwift; and has been repreſented as living only by browſing the trees, being unable from the diſproportionate length of its fore legs to graze or feed from the ground. When it would leap, it lifts up its fore legs and then its hind, like a horſe whoſe fore legs are tied. It runs very badly and aukwardly, and is very eaſily taken. The lateſt and beſt deſcription of this extraordinary quadruped is given in the 16th number of a work entitled, "A Deſcription of the uncommon Animals and remarkable Productions in the Cabinet and *Menagerie* of his Serene Highneſs the Prince of Orange;" by M. Voſmaer, Director of his Highneſs's Collections of Natural Hiſtory. His account of the giraffe is compoſed partly from the notices of M. Vaillant and Mr Gordon of the Cape of Good Hope, and partly from his own obſervations on the ſkins of four of theſe animals, together with a complete ſkeleton, in the cabinet of curioſities under his care. Cervus.

All the accounts we have of the giraffe, agree in repreſenting its hind quarters as about 2½ feet lower than its withers: but from obſervations made by the late profeſſor Camper on the above mentioned ſkeleton, it would appear that naturaliſts have been greatly miſtaken in this particular. That its fore legs are longer than its hind legs, is indeed true; but the difference is not more than ſeven inches, which, in a height of ſeven feet, is no great matter. It may, however (the profeſſor obſerves), be rendered apparently more conſiderable by the obliquity of the thigh-bone with reſpect to the tibia, when compared with that of the humerus to the radius.

The giraffe has always been celebrated for the gentleneſs of its diſpoſition. Antonius Conſtantius, a writer of the 15th century, in a letter to Galeas Manfredi, Prince of Faenza, dated Fano, 16th December 1486, gives an account of a giraffe which he ſaw there. He ſays it was ſo gentle, that it would eat bread, hay, or fruit, out of the hand of a child; and that, when led through the ſtreet, it would take whatever food of this kind was offered to it by the ſpectators at the windows, as it paſſed along. This character is confirmed by Mr Gordon, who relates, that a giraffe, which he had wounded, ſuffered him to approach it as it lay on the ground, without offering to ſtrike with its horns, or ſhowing any inclination to revenge itſelf: he even ſtroked it over its eyes ſeveral times, when it only cloſed them, without any ſigns of reſentment. Its throat was afterwards cut for the ſake of its ſkin; and when in the pangs of death, it ſtruck the ground with its feet with a force much exceeding that of any other animal, and theſe ſeem to be its principal means of defence. M. Voſmaer obſerves, that both the male and female are furniſhed with horns, which, from their ſize and form, ſeem intended merely for ornament: they appear to be exceſcences of the *os frontis*, and therefore are probably not deciduous. The notion of ſome writers, that the giraffe cannot feed from the ground, is confuted by the teſtimony of M. Vaillant, who aſſerts, that it can even drink from a river, the ſurface of which is lower than the bank on which it ſtands. M. Voſmaer obſerves, that this account is confirmed by conſidering the ſtructure of the neck, the vertebræ of which are connected with thoſe of the back by a very ſtrong ligament.

The giraffe here deſcribed, which Mr Gordon, who diſſected it, ſays was the largeſt he had ever ſeen, was 15 feet 4 inches Rhinland meaſure (about 15 feet 10 inches Engliſh) from the ground to the top of its head; the length of the body, from the cheſt to the rump, was 5 feet 7 inches Rhinland meaſure. M. Vaillant aſſerts, that he has ſeen ſeveral which were at leaſt 17 feet high; and M. Voſmaer declares, that he has been aſſured by ſome very reſpectable inhabitants of the Cape, that they had ſeen and killed giraffes, which,

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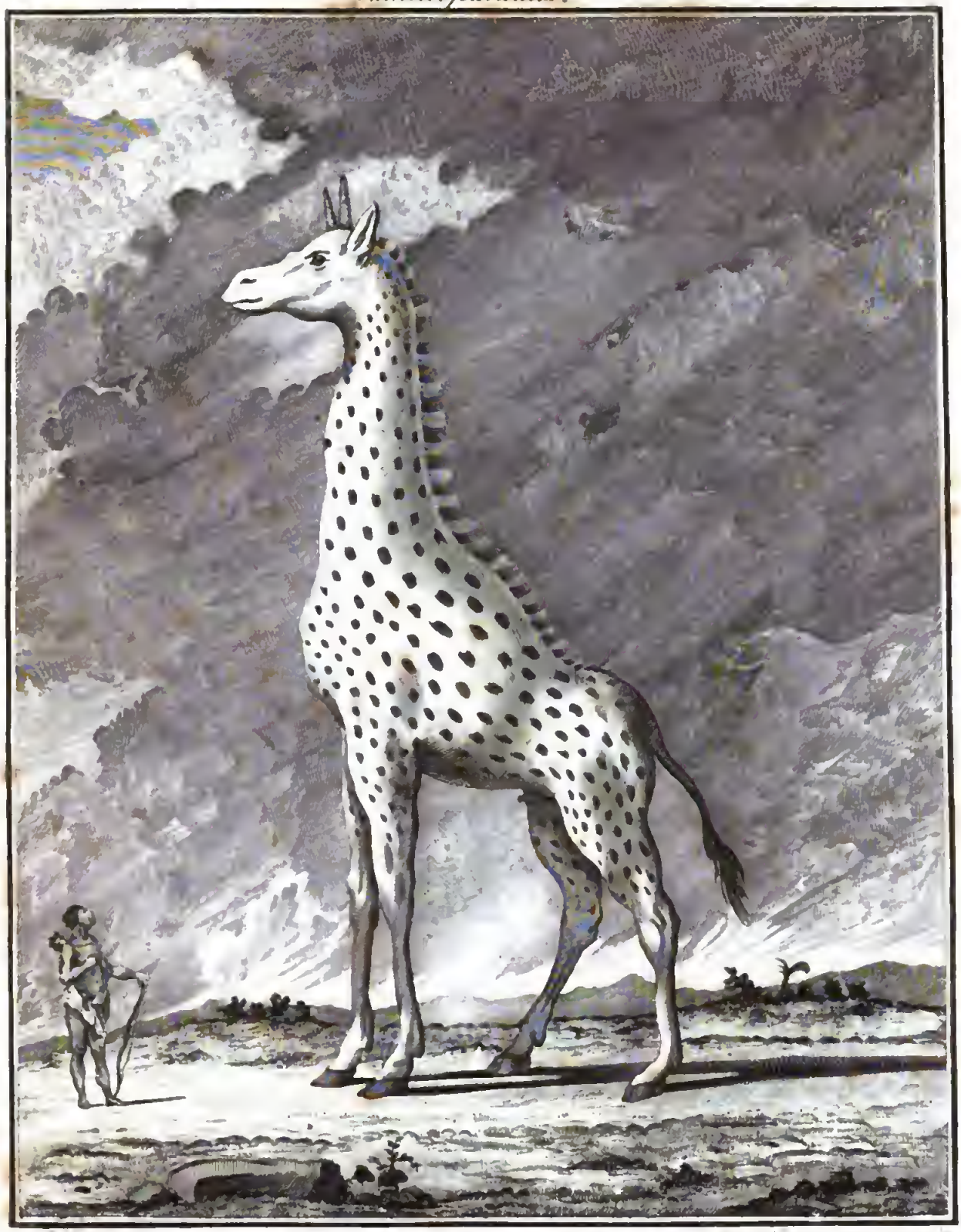
Camelopardalis.



Cervus. which, including the horns, were 22 Rhinland feet in height.

The giraffe was known to the Romans in early times. It appears among the figures in the aſſemblage of eaſtern animals on the celebrated Præneſtine Pavement, made by the direction of Sylla; and is repreſented both grazing and browſing, in its natural attitudes. It was exhibited at Rome by the popular Cæſar, among other animals in the Circæan games.

2. The Alces, Elk, or Mooſe Deer, has palmated horns, without any proper ſtem, and a fleſhy protuberance on the throat. The neck is much ſhorter than the head, with a ſhort, thick, upright mane, of a light brown colour. The eyes are ſmall; the ears a foot long, very broad and flouching; noſtrils very large; the upper lip ſquare, hangs greatly over the lower, and has a deep ſulcus in the middle, ſo as to appear almoſt bifid. This is the hulkieſt animal of the deer kind, being ſometimes 17 hands high, and weighing above 1200 pounds. The female is leſs than the male, and wants horns. The elks inhabit the iſle of Cape Breton, Nova Scotia, and the weſtern ſide of the bay of Fundy; Canada, and the country round the great lakes, almoſt as far ſouth as the river Ohio. Theſe are its preſent northern and ſouthern limits. In all ages it affected the cold and woody regions in Europe, Aſia, and America. They are found in all the woody tracts of the temperate parts of Ruſſia, but not on the Arctic flats, nor yet in Kamtſchatka. In Siberia they are of a monſtrous ſize, particularly among the mountains. The elk and the mooſe, according to Mr Pennant; are the ſame ſpecies; the laſt derived from *moſu*, which in the Algonkin language ſignifies that animal. The Engliſh uſed to call it the black mooſe, to diſtinguiſh it from the ſtag, which they named the grey mooſe. The French call it *Pariginal*.

Theſe animals reſide amidſt foreſts, for the conveniency of browſing the boughs of trees, becauſe they are prevented from grazing with any kind of eaſe, by reaſon of the ſhortneſs of their necks and length of their legs. They often have recourſe to water-plants, which they can readily get at by wading. M. Sarraſin ſays, that they are very fond of the anagyris fœtida, or ſtinking bean trefoil, and will uncover the ſnow with their feet in order to get at it. In paſſing through the woods, they raiſe their heads to a horizontal poſition, to prevent their horns from being entangled in the branches. They have a ſingular gait: their pace is a ſhambling trot, but they go with great ſwiftneſs. In their common walk they lift their feet very high, and will without any difficulty ſtep over a gate five feet high. They feed principally in the night. If they graze, it is always againſt an aſcent; an advantage they uſe for the reaſon above aſſigned. They ruminate like the ox. They go to rut in autumn; are at that time very furious, ſeeking the female by ſwimming from iſle to iſle. They bring two young at a birth, in the month of April, which follow the dam a whole year. During the ſummer they keep in families. In deep ſnows they collect in numbers in the foreſts of pines, for protection from the inclemeney of the weather under the ſhelter of thoſe evergreens. They are very inoffenſive, except in the rutting-ſeaſon; or except they are wounded, when they will turn on the aſſailant, and attack him with their horns, or trample him to death beneath their great hoofs. Cervus.

The fleſh of the mooſe is extremely ſweet and nouriſhing. The Indians ſay, that they can travel three times farther after a meal of mooſe, than after any other animal food. The tongues are excellent; but the noſe is perfect marrow, and eſteemed the greateſt delicacy in Canada. The ſkin makes excellent buff; being ſtrong, ſoft, and light. The Indians dreſs the hide, and, after ſoaking it for ſome time, ſtretch and render it ſupple by a lather of the brains in hot water. They not only make their ſnow-ſhoes of the ſkin, but after a chaſe form the canoes with it: they ſew the ſkins neatly together, cover the ſeams with an unctuous earth, and embark in them with their ſpoils to return home. The hair on the neck, withers, and hams of a full-grown elk, is of much uſe in making mattreſſes and ſaddles; being by its great length well adapted for thoſe purpoſes. The palmated parts of the horns are farther excavated by the ſavages, and converted into ladles, which will hold a pint.

It is not ſtrange that ſo uſeful an animal ſhould be a principal object of chaſe. The ſavages perform it in different ways. The firſt, and the more ſimple, is before the lakes or rivers are frozen. Multitudes aſſemble in their canoes, and form with them a vaſt creſcent, each horn touching the ſhore. Another party perform their ſhare of the chaſe among the woods; they ſurround an extenſive tract, let looſe their dogs, and preſs towards the water with loud cries. The animals, alarmed with the noiſe, fly before the hunters, and plunge into the lake, where they are killed by the perſons in the canoes, prepared for their reception, with lances or clubs. The other method is more artful. The ſavages incloſe a large ſpace with ſtakes hedged with branches of trees, forming two ſides of a triangle: the bottom opens into a ſecond incloſure, completely triangular. At the opening are hung numbers of ſnares, made of ſlips of raw hides. The Indians, as before, aſſemble in great troops, and with all kinds of noiſes drive into the firſt incloſure not only the mooſes, but the other ſpecies of deer which abound in that country: ſome, in forcing their way into the fartheſt triangle, are caught in the ſnares by the neck or horns; and thoſe which eſcape the ſnares, and paſs the little opening, find their fate from the arrows of the hunters, directed at them from all quarters. They are often killed with the gun. When they are firſt unharboured, they ſquat with their hind parts and make water, at which inſtant the ſportſman fires; if he miſſes, the mooſe ſets off in a moſt rapid trot, making, like the rein-deer, a prodigious rattling with its hoofs, and will run for 20 or 30 miles before it comes to bay or takes the water. But the uſual time for this diverſion is the winter. The hunters avoid entering on the chaſe till the ſun is ſtrong enough to melt the frozen cruſt with which the ſnow is covered, otherwiſe the animal can run over the firm ſurface: they wait till it becomes ſoft enough to impede the flight of the mooſe; which ſinks up to the ſhoulders, flounders, and gets on with great difficulty. The ſportſman purſues at his eaſe on his broad rackets, or ſnow-

4

Cervus. snow-ſhoes, and makes a ready prey of the diſtreſſed animals.

As weak againſt the mountain heaps they puſh
Their beating breaſt in vain, and piteous bray,
He lays them quivering on th' enſanguin'd ſnows,
And with loud ſhouts rejoicing bears them home.
THOMPSON.

The opinion of this animal's being ſubject to the epilepſy ſeems to have been univerſal, as well as the cure it finds by ſcratching its ear with the hind hoof till it draws blood. That hoof has been uſed in Indian medicine for the falling-ſickneſs; they apply it to the heart of the afflicted, make him hold it in his left hand, and rub his ear with it. They uſe it alſo in the colic, pleurify, vertigo, and purple fever; pulveriſing the hoof, and drinking it in water. The Algonkins pretend that the fleſh imparts the diſeaſe; but it is notorious that the hunters in a manner live on it with impunity. The ſavages eſteem the mooſe a beaſt of good omen; and are perſuaded that thoſe who dream often of it may flatter themſelves with long life.

The elk was known to the Romans by the name of *Alce* and *Machlis*: they believed that it had no joints in its legs; and, from the great ſize of the upper lip, imagined it could not feed without going backward as it grazed.

3. The Elaphus, or Stag, with long cylindrical ramified horns bent backwards, and ſlender ſharp brow antlers. The colour is generally a reddiſh brown with ſome black about the face, and a black liſt down the hind part of the neck and between the ſhoulders. Stags are common to Europe, Barbary, the north of Aſia, and America. In ſpring, they ſhed their horns, which fall off ſpontaneouſly, or by rubbing them gently againſt the branches of trees. It is ſeldom that both horns fall off at the ſame time, the one generally preceding the other a day or two. The old ſtags caſt their horns firſt, which happens about the end of February or beginning of March. An aged ſtag, or one in his ſeventh year or upwards, does not caſt his horns before the middle of March; a ſtag of ſix years ſheds his horns in April; young ſtags, or thoſe from three to five years old, ſhed their horns in the beginning, and thoſe which are in their ſecond year, not till the middle or end of May. But in all this there is much variety; for old ſtags ſometimes caſt their horns ſooner than thoſe which are younger. Beſides, the ſhedding of the horns is advanced by a mild, and retarded by a ſevere and long winter.

As ſoon as the ſtags caſt their horns, they ſeparate from each other, the young ones only keeping together. They no longer haunt the deepeſt receſſes of the foreſt, but advance into the cultivated country, and remain among bruſhwood during the ſummer, till their horns are renewed. In this ſeaſon, they walk with their heads low to prevent their horns from rubbing againſt the branches; for they continue to have ſenſibility till they acquire their full growth. The horns of the oldeſt ſtags are not half completed in the middle of May, and acquire their full length and hardneſs before the end of July. Thoſe of the younger ſtags are proportionally later both in ſhedding and being renewed. But as ſoon as they have acquired their full dimenſions and ſolidity, the ſtags rub them againſt the trees, in order to clear them of a ſkin with which they are covered. Cervus.

Soon after the ſtags have poliſhed their horns, they begin to feel the impreſſions of love. Towards the end of Auguſt or beginning of September, they leave the coppice, return to the foreſts, and ſearch for the hinds. They cry with a loud voice; their neck and throat ſwell; they become perfectly reſtleſs, and traverſe in open day the fields and the fallow grounds; they ſtrike their horns againſt trees and hedges; in a word, they ſeem to be tranſported with fury, and run from country to country till they find the hinds or females, whom they purſue and compel into compliance; for the female at firſt avoids and flies from the male, and never ſubmits to his embraces till ſhe be fatigued with the purſuit. The old hinds likewiſe come in ſeaſon before the younger ones. When two ſtags approach the ſame hind, they muſt fight before they enjoy. If nearly equal in ſtrength, they threaten, paw the ground, ſet up terrible cries, and attack each other with ſuch fury, that they often inflict mortal wounds with the ſtrokes of their horns. The combat never terminates but in the defeat or flight of one of the rivals. The conqueror loſes not a moment in enjoying his victory, unleſs another rival approaches, whom he is again obliged to attack and repel. The oldeſt ſtags are always maſters of the field; becauſe they are ſtronger and more furious than the young ones, who muſt wait patiently till their ſuperiors tire, and quit their miſtreſſes. Sometimes, however, the young ſtags accompliſh their purpoſes when the old ones are fighting, and, after a haſty gratification, fly off. The hinds prefer the old ſtags, not becauſe they are moſt courageous, but becauſe they are much more ardent. They are likewiſe more inconſtant, having often ſeveral females at a time; and when a ſtag has but one hind, his attachment to her does not continue above a few days: He then leaves her, goes in queſt of another, with whom he remains a ſtill ſhorter time; and in this manner paſſes from one to another till he is perfectly exhauſted.

This ardour of love laſts only three weeks, during which the ſtags take very little food, and neither ſleep nor reſt. Night and day, they are either walking, running, fighting, or enjoying the hinds. Hence, at the end of the rutting ſeaſon, they are ſo meagre and exhauſted, that they recover not their ſtrength for a conſiderable time. They generally retire to the borders of the foreſts, feed upon the cultivated fields, where they find plenty of nouriſhment, and remain there till their ſtrength is re-eſtabliſhed. The rutting ſeaſon of old ſtags commences about the beginning, and ends about the 20th day of September. In thoſe of ſix or ſeven years old, it begins about the 10th of September, and concludes in the beginning of October. In young ſtags, or thoſe in their third, fourth, or fifth year, it begins about the 20th of September, and terminates about the 15th of October; and at the end of October, the rutting is all over, excepting among the *prickets*, or thoſe which have entered into their ſecond year; becauſe they, like the young hinds, are lateſt of coming into ſeaſon. Hence, at the beginning of November, the ſeaſon of love is entirely finiſhed; and the ſtags, during this period of weakneſs and laſſitude, are eaſily hunted down. In ſeaſons when acorns and

Cervus. and other nuts are plentiful, the ſtags ſoon recover their ſtrength, and a ſecond rutting frequently happens at the end of October; but it is of much ſhorter duration than the firſt.

In climates warmer than that of France, the rutting time, like the ſeaſons, is more forward. Ariſtotle informs us, that, in Greece, it commences in the beginning of Auguſt, and terminates about the end of September. The hinds go with young eight months and ſome days, and ſeldom produce more than one fawn. They bring forth in May or the beginning of June, and ſo anxiouſly conceal their fawns, that they often expoſe themſelves to be chaſed, with a view to draw off the dogs, and afterwards return to take care of their young. All hinds are not fertile; for ſome of them never conceive. Theſe barren hinds are groſſer and fatter than thoſe which are prolific, and alſo come ſooneſt in ſeaſon. The young are not called *fawns* or *calves* after the ſixth month: The knobs of their horns then begin to appear, and they take the name of *knobbers* till their horns lengthen into *ſpears*, and then they are called *brocks* or *ſtaggards*. During the firſt ſeaſon, they never leave their mothers. In winter, the ſtags and hinds, of all ages, keep together in flocks, which are always more numerous in proportion to the rigour of the ſeaſon. They ſeparate in ſpring: The hinds retire to bring forth; and, during this period, the flocks conſiſt only of knobbers and young ſtags. In general, the ſtags are inclined to aſſociate, and nothing but fear or neceſſity obliges them to diſperſe.

The life of the ſtag is ſpent in alternate plenty and want, vigour and debility, health and ſickneſs, without having any change introduced into his conſtitution by theſe oppoſite extremes. He lives as long as other animals which are not ſubjected to ſuch viciſſitudes. As he grows five or ſix years, he lives ſeven times that number, or from 35 to 40 years. What has been reported concerning the longevity of the ſtag merits no credit. It is only a popular prejudice which prevailed in the days of Ariſtotle, and which that philoſopher conſidered as improbable, becauſe neither the time of geſtation, nor of the growth of the young ſtag, indicated long life. This authority ought to have aboliſhed the prejudice; but it has been renewed, in the ages of ignorance, by a fabulous account of a ſtag taken by Charles VI. in the foreſt of Senlis, with a collar upon which was written this inſcription, *Ceſar hoc me donavit*. The love of the marvellous inclined men to believe that this animal had lived 1000 years, and had his collar from a Roman emperor, rather than to ſuppoſe that he came from Germany, where all the emperors take the name of *Ceſar*.

The ſtag appears to have a fine eye, an acute ſmell, and an excellent ear. When liſtening, he raiſes his head, erects his ears, and hears from a great diſtance. When he is going into a coppice, or other half covered place, he ſtops to look round him on all ſides, and ſcents the wind, to diſcover if any object is near that might diſturb him. He is a ſimple, and yet a curious and crafty animal. When hiſſed or called to from a diſtance, he ſtops ſhort, and looks ſtedfaſtly, and with a kind of admiration, at carriages, cattle, or men; and if they have neither arms nor dogs, he moves on unconcernedly, and without flying. He appears to liſten, with great tranquillity and delight, to the ſhepherd's pipe; and the hunters ſometimes employ this artifice to encourage and deceive him. In general, he is leſs afraid of men than of dogs, and is never ſuſpicious, or uſes any arts of concealment, but in proportion to the diſturbances he has received. He eats ſlow, and has a choice in his aliment; and after his ſtomach is full, he lies down, and ruminates at leiſure. He ſeems to ruminate with leſs facility than the ox. It is only by violent ſhakes that the ſtag can make the food riſe from his firſt ſtomach. This difficulty proceeds from the length and direction of the paſſage through which the aliment has to go. The neck of the ox is ſhort and ſtraight, but that of the ſtag is long and arched; and therefore greater efforts are neceſſary to raiſe the food. Theſe efforts are made by a kind of hiccup, the movement of which is apparent, and continues during the time of rumination. His voice is ſtronger, and more quivering, in proportion as he advances in years. The voice of the hind is ſhorter and more feeble. She never bellows from love, but from fear. The ſtag, during the rutting ſeaſon, bellows in a frightful manner: He is then ſo tranſported, that nothing diſturbs or terrifies him. He is therefore eaſily ſurpriſed; as he is loaded with fat, he cannot keep long before the dogs. But he is dangerous when at bay, and attacks the dogs with a ſpecies of fury. He drinks none in winter nor in ſpring, the dews and tender herbage being then ſufficient to extinguiſh his thirſt; but, during the parching heats of ſummer, to obtain drink, he frequents the brooks, the marſhes, and the fountains; and in the ſeaſon of love, he is ſo over-heated, that he ſearches every where for water, not only to ſatisfy his immoderate thirſt, but to bathe and refreſh his body. He then ſwims eaſier than at any other times on account of his fatneſs. He has been obſerved croſſing very large rivers. It has even been alleged, that, attracted by the odour of the hinds, the ſtags, in the rutting ſeaſon, throw themſelves into the ſea, and paſs from one iſland to another at the diſtance of ſeveral leagues. They leap ſtill more nimbly than they ſwim; for, when purſued, they eaſily clear a hedge or a pale fence of ſix feet high. Their food varies in different ſeaſons. In autumn, after rutting, they ſearch for the buds of green ſhrubs, the flowers of broom or heath, the leaves of brambles, &c. During the ſnows of winter, they feed upon the bark, moſs, &c. of trees; and in mild weather, they browſe in the wheat-fields. In the beginning of ſpring, they go in queſt of the catkins of the trembling poplar, willow, and hazel-trees, the flowers and buds of the cornel tree, &c. In ſummer, when they have great choice, they prefer rye to all other grain, and the black berry-bearing alder to all other wood. The fleſh of the fawn is very good: that of the hind and knobber not abſolutely bad; but that of the ſtag has always a ſtrong and diſagreeable taſte. The ſkin and the horns are the moſt uſeful parts of this animal. The ſkin makes a pliable and very durable leather. The horns are uſed by cutlers, ſword-ſlippers, &c. and a volatile ſpirit, much employed in medicine, is extracted from them by the chymiſts.

In America, ſtags feed eagerly on the broad-leaved kalmia; yet that plant is a poiſon to all other horned animals: their inteſtines are found filled with it during winter. If their entrails are given to dogs, they become ſtupified, and as if drunk, and often are ſo ill

Cervus. as hardly to eſcape with life. The American ſtags grow very fat: their tallow is much eſteemed for making of candles. The Indians ſhoot them. As they are very ſhy animals, the natives cover themſelves with a hide, leaving the horns erect; under ſhelter of which they walk within reach of the herd. De Brie, in the 25th plate of the Hiſtory of Florida, gives a very curious repreſentation of this artful method of chaſe, when it was viſited by the French in 1564. Their ſkins are an article of commerce imported by the Hudſon's Bay company; but brought from the diſtant parts far inland by the Indians, who bring them from the neighbourhood of the lakes. In moſt parts of North America they are called the grey mooſe, and the elk; this has given occaſion to the miſtaken notion of that great animal being found in Virginia and other ſouthern provinces.

In Britain the ſtag is become leſs common than formerly; its exceſſive viciouſneſs during the rutting ſeaſon, and the badneſs of its fleſh, induce moſt people to part with the ſpecies. Stags are ſtill found wild in the Highlands of Scotland, in herds of four or five hundred together, ranging at full liberty over the vaſt hills of the north. Formerly the great Highland chieftains uſed to hunt with the magnificence of an eaſtern monarch, aſſembling four or five thouſand of their clan, who drove the deer into the toils or to the ſtations the lairds had placed themſelves in: but as this pretence was frequently uſed to collect their vaſſals for rebellious purpoſes, an act was paſſed prohibiting any aſſemblies of this nature. Stags are likewiſe met with on the moors that border on Cornwal and Devonſhire; and in Ireland on the mountains of Kerry, where they add greatly to the magnificence of the romantic ſcenery to the lake of Killarny. The ſtags of Ireland during its uncultivated ſtate, and while it remained an almoſt boundleſs tract of foreſt, had an exact agreement in habit with thoſe that range at preſent through the wilds of America. They were leſs in body, but very fat; and their horns of a ſize far ſuperior to thoſe of Europe, but in form agreed in all points.

The chace of the ſtag has been formed into an art, and requires a ſpecies of knowledge which can only be learned by experience: It implies a royal aſſemblage of men, horſes, and dogs, all ſo trained, practiſed, and diſciplined, that their movements, their reſearches, and their ſkill, muſt concur in producing one common end. The huntſman ſhould know the age and the ſex of the animal; he ſhould be able to diſtinguiſh with preciſion, whether the ſtag he has harboured with his hound be a knobber, a young ſtag, in his ſixth or ſeventh year, or an old ſtag. The chief marks which convey this intelligence is derived from the foot, and the excrement. The foot of the ſtag is better formed than that of the hind, or female. Her leg is more groſs and nearer the heel. The impreſſions of his feet are rounder, and farther removed from each other. He moves more regularly, and brings the hind foot into the impreſſion made by the fore-foot. But the diſtance between the ſteps of the hind are ſhorter, and her hind-feet ſtrike not ſo regularly the track of the fore feet. As ſoon as the ſtag acquires his fourth horns, he is eaſily diſtinguiſhed; but to know the foot of a young ſtag from that of a hind, requires repeated experience. Stags of ſix, ſeven, &c. years, Cervus. are ſtill more eaſily known; for their fore foot is much larger than the hind foot; the older they are, the ſides of their feet are the more worn; the diſtance of their ſteps are more regular than thoſe of young ſtags; they always place their hind-foot exactly in the track of the fore-foot, excepting, when they ſhed their horns, the old ſtags miſplace, at this ſeaſon, nearly as often as the young ones; but in this they are more regular than the hind or young ſtag, placing the hind foot always at the ſide of the fore-foot, and never beyond or within it. When the huntſman, from the dryneſs of the ſeaſon, or other circumſtances, cannot judge by the foot, he is obliged to trace the animal backwards, and endeavour to find his dung. This mark requires, perhaps, greater experience than the knowledge of the foot; but without it the huntſman would be unable to give a proper report to the company. After the report of the huntſman, and the dogs are led to the refuge of the ſtag, he ought to encourage his hound, and make him reſt upon the track of the ſtag, till the animal be unharboured. Inſtantly the alarm is given to uncouple the dogs, which ought to be enlivened by the voice and the horn of the huntſman. He ſhould alſo diligently obſerve the foot of the ſtag, in order to diſcover whether the animal has ſtarted, and ſubſtituted another in his place. But it is then the buſineſs of the hunters to ſeparate alſo, and to recal the dogs which have gone aſtray after falſe game. The huntſman ſhould always accompany his dogs, and encourage, without preſſing them too hard. He ſhould aſſiſt them in detecting all the arts of eſcape uſed by the ſtag; for this animal has remarkable addreſs in deceiving the dogs. With this view, he often returns twice or thrice upon his former ſteps; he endeavours to raiſe hinds or younger ſtags to accompany him, and draw off the dogs from the object of their purſuit: he then flies with redoubled ſpeed, or ſprings off at ſide, lies down on his belly, and conceals himſelf. In this caſe, when the dogs have loſt his foot, the huntſmen, by going backwards and forwards, aſſiſt them in recovering it. But if they cannot find it, they ſuppoſe that he is reſting within the circuit they have made, and go in queſt of him. But if they are ſtill unable to diſcover him, there is no other method left, but, from viewing the country, to conjecture where he may have taken refuge, and repair to the place. As ſoon as they have recovered his foot, and put the dogs upon the track, they purſue with more advantage, becauſe they perceive that the ſtag is fatigued. Their ardour augments in proportion to his feebleneſs; and their ſcent becomes more diſtinct as the animal grows warm. Hence they redouble their cries and their ſpeed; and though the ſtag practiſes ſtill more arts of eſcape than formerly, as his ſwiftneſs is diminiſhed, his arts and doublings become gradually leſs effectual. He has now no other reſource but to fly from the earth which he treads, and get into the waters, in order to cut off the ſcent from the dogs. The huntſmen go round theſe waters, and again put the dogs on the track of his foot. The ſtag, after taking to the water, is incapble of running far, and is ſoon at bay. But he ſtill attempts to defend his life, and often wounds the dogs, and even the huntſmen when too forward, by blows with his horns, till one of them cuts his

hams

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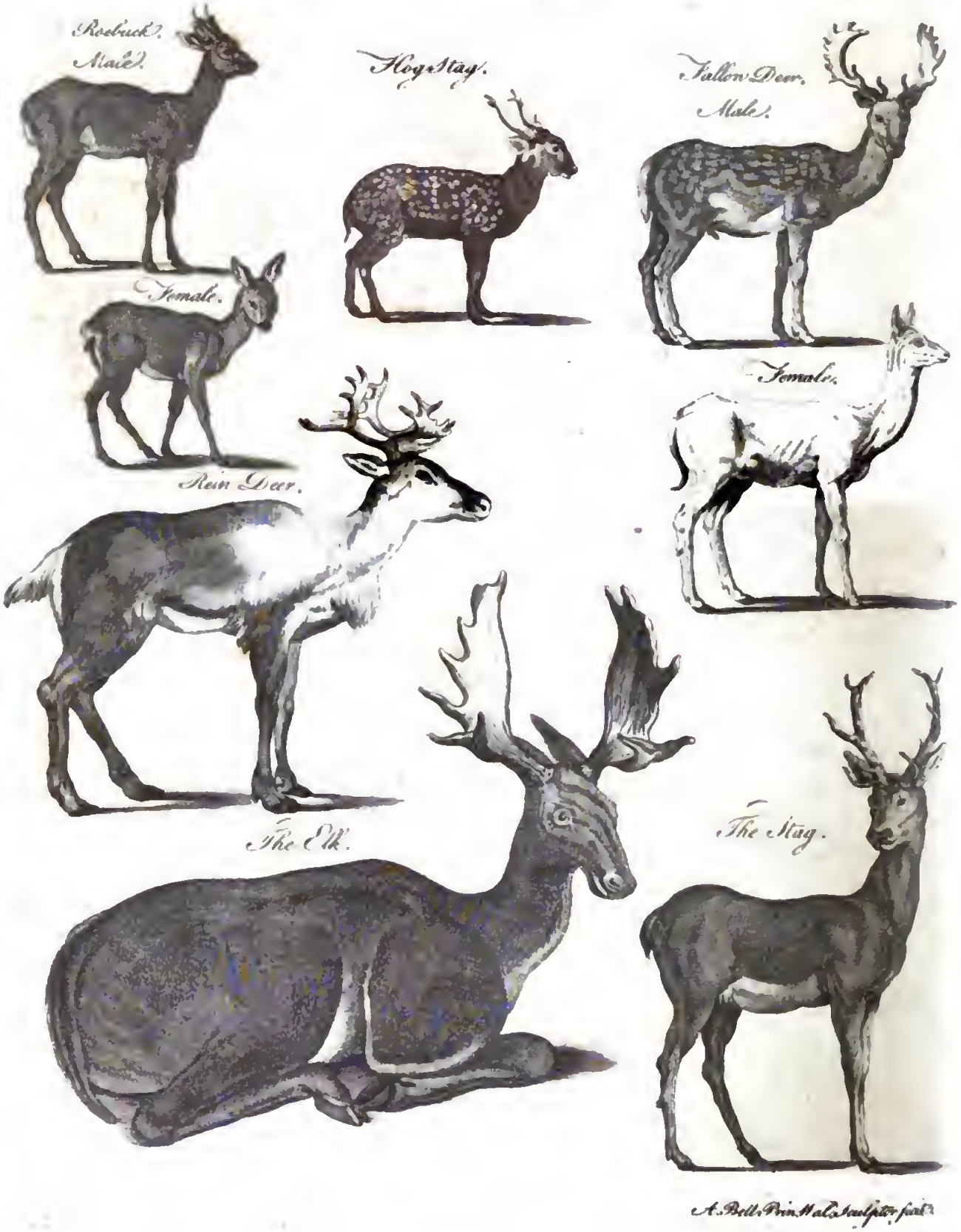

A. Bell Prin. Wal. Sculptor fecit.

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Cervus. hams to make him fall, and then puts an end to his life by a blow of a hanger. They now celebrate the death of the ſtag by a flouriſh of their horns; the dogs are allowed to trample upon him, and at laſt partake richly of the victory by devouring his fleſh. Cervus.

4. The Tarandus, or Rein-deer, is a native of Lapland, and the northern parts of Europe, Aſia, and America. The horns are large, cylindrical, branched, and palmated at the tops. Two of the branches hang over the face. He is about the ſize of a buck, of a dirty whitiſh colour; the hairs of his ſkin are thick and ſtrong. To the Laplanders this animal is the ſubſtitute of the horſe, the cow, the goat, and the ſheep; and is their only wealth: the milk affords them cheeſe; the fleſh, food; the ſkin, cloathing; the tendons, bow-ſtrings; and when ſplit, thread; the horns, glue; the bones, ſpoons. During the winter it ſupplies the want of a horſe, and draws their ſledges with amazing ſwiftneſs over the frozen lakes and rivers, or over the ſnow, which at that time covers the whole country. A rich Laplander is poſſeſſed of a herd of 1000 rein deer. In autumn they ſeek the higheſt hills, to avoid the Lapland gad-fly, which at that time depoſits its eggs in their ſkin; it is the peſt of theſe animals, and numbers die that are thus viſited. The moment a ſingle fly appears, the whole herd inſtantly perceives it; they fling up their heads, toſs about their horns, and at once attempt to fly for ſhelter amidſt the ſnows of the loftieſt Alps. In ſummer they feed on ſeveral plants; but during winter on the rein-liverwort, which lies far beneath the ſnow, which they remove with their feet and palmated brow antlers, in order to get at their beloved food.

The Samoieds, leſs intelligent than the Laplanders, conſider them in no other view than as animals of draught, to convey them to the chaſe of the wild reins; which they kill for the ſake of the ſkins, either to clothe themſelves, or to cover their tents. They know not the cleanly delicacy of the milk or cheeſe; but preſer for their repaſt the inteſtines of beaſts, or the half-putrid fleſh of a horſe, ox, or ſheep, which they find dead on the high road.—The Koreki, a nation of Kamtſchatka, may be placed on a level with the Samoieds. They keep immenſe herds of reins; ſome of the richeſt to the amount of 10 or 20 thouſand; yet ſo ſordid are they as to eat none except ſuch as they kill for the ſake of the ſkins; an article of commerce with their neighbours the Kamtſchatkans; otherwiſe they content themſelves with the fleſh of thoſe which die by diſeaſe or chance. They train them in the ſledge, but neglect them for every domeſtic purpoſe. Their hiſtorian ſays, they couple two to each carriage; and that the deer will travel 150 verſts in a day, that is, 112 Engliſh miles. They caſtrate the males by piercing the ſpermatic arteries, and tying the ſcrotum tight with a thong.—The ſavage and uninformed Eſkimaux and Greenlanders, who poſſeſs, amidſt their ſnows, theſe beautiful animals, neglect not only the domeſtic uſes, but even are ignorant of their advantage in the ſledge. Their element is properly the water; their game the ſeals. They ſeem to want powers to domeſticate any animals except dogs. They are at enmity with all; conſider them as an object of chaſe, and of no utility till deprived of life. The fleſh of the rein is the moſt coveted part of their food; they eat it raw, dreſſed, and dried and ſmoked with the ſnow lichen. The wearied hunters will drink the raw blood; but it is uſually dreſſed with the berries of the heath: they eagerly devour the contents of the ſtomach, but uſe the inteſtines boiled. They are very fond of the fat, and will not loſe the leaſt bit. The ſkin, ſometimes a part of their cloathing, dreſſed with the hair on, is ſoft and pliant; it forms alſo the inner lining of their tents, and moſt excellent blankets. The tendons are their bow-ſtrings, and when ſplit are the threads with which they ſew their jackets.

The Greenlanders, before they acquired the knowledge of the gun, caught them by what was called the *clapper-hunt*. The women and children ſurrounded a large ſpace, and, where people were wanting, ſet up poles capped with a turf in certain intervals, to terrify the animals; they then with great noiſe drove the reins into the narrow defiles, where the men lay in wait and killed them with harpoons or darts. But they are now become very ſcarce.

The rein-deers are found in the neighbourhood of Hudſon's Bay, in moſt amazing numbers, columns of eight or ten thouſand are ſeen annually paſſing from north to ſouth in the months of March and April, driven out of the woods by the muſketoes, ſeeking refreſhment on the ſhore, and a quiet place to drop their young. They go to rut in September, and the males ſoon after ſhed their horns; they are at that ſeaſon very fat, but ſo rank and muſky as not to be eatable. The females drop their young in June, in the moſt ſequeſtered ſpots they can find; and then they likewiſe loſe their horns. Beaſts of prey follow the herds: firſt, the wolves, who ſingle out the ſtragglers (for they fear to attack the drove), detach and hunt them down: the foxes attend at a diſtance, to pick up the offals left by the former. In autumn the deer with the fawns remigrate northward. The Indians are very attentive to their motions; for the rein forms the chief part not only of their dreſs but of their food. They often kill multitudes for the ſake of their tongues only; but generally they ſeparate the fleſh from the bones, and preſerve it by drying it in the ſmoke; they alſo ſave the fat, and ſell it to the Engliſh in bladders, who uſe it in frying inſtead of butter. The ſkins are alſo an article of commerce, and uſed in London by the Breeches-makers. The Indians ſhoot them in the winter. The Engliſh make hedges with ſtakes and boughs of trees along the woods for five miles in length, leaving openings at proper intervals beſet with ſnares, in which multitudes are taken. The Indians alſo kill great numbers during the ſeaſons of migration, watching in their canoes, and ſpearing them while paſſing over the rivers of the country, or from iſland to iſland; for they ſwim moſt admirably well.

5. The Dama or Fallow-deer, Buck and Doe; with horns branched, compreſſed, and palmated at the top. The colour is various; reddiſh, deep brown, white or ſpotted. This ſpecies is not ſo univerſal as the ſtag: rare in France and Germany. It is found in Greece, the Holy Land, and the north of China. They are very numerous in England; but, except on a few chaſes, confined in parks. None originally in America. They are eaſily tamed; and their fleſh, which goes by the name of veniſon, is in high eſteem among the luxurious. During rutting-time they will contend

Cervus. with each other for their miſtreſs, but are leſs fierce than the ſtag; during that ſeaſon, the male will form a hole in the ground, make the female lie down in it, and then often walk round and ſmell at her. Moore ſpeaks of a ſpecies found on the banks of the Gambia, in the interior parts of Africa, near Barracunda, called *Tontong*, which he ſays differed not in form from the Engliſh fallow-deer; only that its ſize was equal to that of a ſmall horſe, and weighed 300 lb. It had alſo on its neck an erect black mane, four or five inches long.—Mr White, in his Natural Hiſtory of Selborn, mentions, as a piece of information to naturaliſts, that if ſome curious gentleman would procure the head of a fallow deer, and have it diſſected, he would find it furniſhed with two *ſpiracula*, or breathing-places, beſides the noſtrils; probably analogous to the *puncta lachrymalia* in the human head. When deer are thirſty they plunge their noſes, like ſome horſes, very deep under water, while in the act of drinking, and continue them in that ſituation for a conſiderable time; but, to obviate any inconvenience, they can open two vents, one at the inner corner of each eye, having a communication with the noſe. This ſeems, as our author obſerves, to be an extraordinary proviſion of nature; for it looks as if theſe creatures could not be ſuffocated, though their mouths and noſtrils were both ſtopped. This curious formation of the head, he farther remarks, may be of ſingular ſervice to beaſts of chaſe, by affording them free reſpiration; and no doubt theſe additional noſtrils are thrown open when they are hard run. Mr Pennant has obſerved the ſame curious organization in the antelope. See Capra.

6. The Capreolus, or Roe-buck, has erect, cylindrical, branched horns, and forked at the top. His ſize is only three feet nine inches long, two feet three inches high before, and two feet ſeven inches high behind: weight from 50 to 60 lb. Though the leaſt of the deer-kind, his figure is moſt elegant and handſome. His eyes are more brilliant and animated than thoſe of the ſtag. His limbs are more nimble, his movements quicker, and he bounds, ſeemingly without effort, with equal vigour and agility. His coat, or hair, is always clean, ſmooth, and gloſſy. He never wallows in the mire like the ſtag. He delights in dry and elevated ſituations, where the air is pureſt. He is likewiſe more crafty, conceals himſelf with greater addreſs, is more difficult to trace, and derives ſuperior reſources from inſtinct: for though he has the misfortune to leave behind him a ſtronger ſcent than the ſtag, which redoubles the ardour and appetite of the dogs, he knows how to withdraw himſelf from their purſuit, by the rapidity with which he begins his flight, and by his numerous doublings. He delays not his arts of defence till his ſtrength fails him; but, as ſoon as he finds that the firſt efforts of a rapid chace have been unſucceſsful, he repeatedly returns on his former ſteps; and after confounding, by theſe oppoſite movements, the direction he has taken, after intermixing the preſent with the paſt emanations from his body, he riſes from the earth by a great bound, and, retiring to a ſide, he lies down flat on his belly; and in this immoveable ſituation, he allows the whole troop of his deceived enemies to paſs very near him.

The roe-deer differs from the ſtag and fallow-deer in diſpoſition, temperament, manners, and almoſt every natural habit. Inſtead of aſſociating in herds, they live in ſeparate families. The father, mother, and young, go together, and never mix with ſtrangers. They are conſtant in their amours, and never unfaithful like the ſtag. As the females generally produce two fawns, the one male and the other female, theſe young animals, brought up and nouriſhed together, acquire ſo ſtrong a mutual affection, that they never quit each other, unleſs one of them meets with a misfortune, which never ought to ſeparate lovers. This attachment is more than love; for though always together, they feel the ardour of the rut but once a year, and it continues only fifteen days, commencing at the end of October, and ending before the fifteenth day of November. They are not then, like the ſtag, over-loaded with fat: they have no ſtrong ſmell, no fury, in a word, nothing that can change the ſtate of their bodies. During this period, they indeed ſuffer not their fawns to remain with them. The father drives them off, as if he meant to oblige them to yield their place to thoſe which are to ſucceed, and to form new families for themſelves. However, after the rutting ſeaſon is paſt, the fawns return to their mother, and remain with her ſome time; after which they ſeparate for ever, and remove to a diſtance from the place which gave them birth. Cervus.

The female goes with young five months and a half, and brings forth about the end of April or beginning of May. She produces two at a time, which ſhe is obliged to conceal from the buck while very young. In 10 or 12 days they acquire ſtrength ſufficient to enable them to follow her. When threatened with danger, ſhe hides them in a cloſe thicket, and, to preſerve them, preſents herſelf to be chaced. But notwithſtanding all her care and anxiety, the young are ſometimes carried off by men, dogs, or wolves.

Roe-bucks prefer a mountainous woody country to a plain one. They were formerly very common in Wales, in the north of England, and in Scotland; but at preſent the ſpecies nowhere exiſts in Great Britain except in the Scottiſh highlands. In France they are more frequent; they are alſo found in Italy, Sweden, and Norway; and in Aſia they are met with in Siberia. The firſt that are met with in Great Britain are in the woods on the ſouth ſide of Loch-Rannoch, in Perthſhire: the laſt in thoſe of Longwal, on the ſouthern borders of Caithneſs; but they are moſt numerous in the beautiful foreſts of Invercauld, in the midſt of the Grampian hills. They are unknown in Ireland. Wild roes, during ſummer, feed on graſs; and are very fond of the *rubus ſaxatilis*, called in the Highlands the roe-buck berry; but in the winter time, when the ground is covered with ſnow, they browſe on the tender branches of the fir and birch.

7. The Guineenſis, about the ſize of a cat, is of a grayiſh colour, and black underneath. It is a native of Guinea, and the ſize and figure of its horns have not been hitherto deſcribed with any preciſion.

8. The Axis, or Speckled Deer, has ſlender trifurcated horns; the firſt branch near the baſe, the ſecond near the top, each pointing upwards. This ſpecies is about the ſize of the fallow-deer; of a light red colour; the body beautifully marked with white ſpots; along

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Cervus. along the lower part of the ſides, next the belly, is a line of white; the tail long, as that of a fallow-deer; red above, white beneath.—They are common on the banks of the Ganges, and in the iſle of Ceylon. Pliny deſcribes them well among the animals of India, and adds that they were ſacred to Bacchus. They will bear our climate; and have bred in the prince of Orange's menagery near the Hague. They are very tame, and have the ſenſe of ſmelling in an exquiſite degree. They readily eat bread, but will refuſe a piece that has been breathed on: many other animals of this, the antelope and goat kind, will do the ſame.

9. The Porcine or Hog Deer, has ſlender triſurcated horns, 13 inches long: His body is thick and clumſy; his legs are fine and ſlender: The upper part of the neck, body, and ſides, are brown; belly and rump, of a lighter colour.—They are found in Bengal; and called, from the thickneſs of their body, *hog-deer*. The ſame ſpecies is alſo found in Borneo. They are taken in ſquare pit-falls, about four feet deep, covered with ſome ſlight materials. Of their feet, as well as thoſe of the leſſer ſpecies of muſks and antelopes, are made tobacco-ſtoppers.

10. The Virginiana, or Virginian Deer, has ſlender horns, bending very much forward; numerous branches on the interior ſides; no brow antlers. It is about the ſize of the Engliſh fallow-deer; of a light colour, cinereous brown. A quite diſtinct ſpecies, and peculiar to America. It inhabits all the provinces ſouth of Canada, but in greateſt abundance in the ſouthern; but eſpecially the vaſt ſavannas contiguous to the Miſſiſippi, and the great rivers which flow into it. They graze in herds innumerable, along with the ſtags and buffaloes. This ſpecies probably extends to Guiana, and is the *baieu* of that country, which is ſaid to be about the ſize of a European buck, with ſhort horns, bending at their ends. They are capable of being made tame; and when properly trained, are uſed by the Indians to decoy the wild deer (eſpecially in the rutting ſeaſon) within ſhot. Both bucks and does herd from September to March; after that they ſeparate, and the does ſecrete themſelves to bring forth, and are found with difficulty. The bucks from this time keep ſeparate till the amorous ſeaſon of September revolves. The deer begin to feed as ſoon as night begins; and ſometimes, in the rainy ſeaſon, in the day; otherwiſe they ſeldom or never quit their haunts. An old American ſportſman has remarked, that the bucks will keep in the thickets for a year, or even two.

Theſe animals are very reſtleſs, and always in motion, coming and going continually. Thoſe which live near the ſhores are lean and bad, ſubject to worms in their heads and throats, generated from the eggs depoſited in thoſe parts. Thoſe that frequent the hills and ſavannas are in better caſe, but the veniſon is dry. In hard winters they will feed on the long moſs which hangs from the trees in the northern parts.

Theſe and other cloven-footed quadrupeds of America are very fond of ſalt, and reſort eagerly to the places impregnated with it. They are always ſeen in great numbers in the ſpots where the ground has been torn by torrents or other accidents, where they are ſeen licking the earth. Such ſpots are called *licking-places*. The huntſmen are ſure of finding the game there; Cervus. for notwithſtanding they are often diſturbed, the buffaloes and deer are ſo paſſionately fond of the ſavoury regale, as to bid defiance to all danger, and return in droves to theſe favourite haoots.

The deer are of the firſt importance to the ſavages. The ſkins form the greateſt branch of their traffick, by which they procure from the coloniſts, by way of exchange, many of the articles of life. To all of them the fleſh is the principal food throughout the year; for drying it over a gentle but clear fire, after cutting it into ſmall pieces, it is not only capable of long preſervation, but is very portable in their ſudden excurſions, eſpecially when reduced to powder, which is frequently done.

Hunting is more than an amuſement to theſe people. They give themſelves up to it not only for the ſake of ſubſiſtence, but to fit themſelves for war, by habituating themſelves to fatigue. A good huntſman is an able warrior. Thoſe who fail in the ſports of the field are never ſuppoſed to be capable of ſupporting the hardſhips of a campaign; they are degraded to ignoble offices, ſuch as dreſſing the ſkins of deer, and other employs allotted only to ſlaves and women. When a large party meditates a hooting match, which is uſually at the beginning of winter, they agree on a place of rendezvous, often 500 miles diſtant from their homes, and a place perhaps that many of them had never been at. They have no other method of fixing on the ſpot than by pointing with their finger. The preference is given to the eldeſt, as the moſt experienced. When this matter is ſettled, they ſeparate into ſmall parties, travel and hunt for ſubſiſtence all the day, and reſt at night; but the women have no certain reſting-places. The ſavages have their particular hunting countries; but if they invade the limits of thoſe belonging to other nations, feuds enſue, fatal as thoſe between Percy and Douglas in the famed Chevy Chace. As ſoon as they arrive on the borders of the hunting country (which they never fail doing to a man, be their reſpective routes ever ſo diſtant or ſo various), the captain of the band delineates on the bark of a tree his own figure, with a rattleſnake twined round him with diſtended mouth; and in his hand a bloody tomahawk. By this he implies a deſtructive menace to any who are bold enough to invade their territories, or to interrupt their diverſion.—The chaſe is carried on in different ways. Some ſurpriſe the deer by uſing the ſkale of the head, horns, and hide; but the general method is performed by the whole body. Several hundreds diſperſe in a line, encompaſſing a vaſt ſpace of country, fire the woods, and drive the animals into ſome ſtrait or peninſula, where they become an eaſy prey. The deer alone are not the object; foxes, raccoons, bears, and all beaſts of fur, are thought worthy of attention, and form articles of commerce with the Europeans.

The number of deer deſtroyed in ſome parts of America is incredible; as is pretended, from an abſurd idea which the ſavages have, that the more they deſtroy, the more they ſhall find in ſucceeding years. Certain it is that multitudes are deſtroyed; the tongues only preſerved, and the carcaſes left a prey to wild beaſts. But the motive is much more political. The

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savages well discern, that should they overstock the market, they would certainly be over-reached by the European dealers, who take care never to produce more goods than are barely sufficient for the demand of the season, establishing their prices according to the quantity of furs brought by the natives.

Cervus Volans, in natural history, a name given by authors to the stag-fly, or horned beetle, a very large species of beetle with horns sloped, and something like those of the stag.

CERYX, in antiquity. The ceryces were a sort of public criers appointed to proclaim or publish things aloud in assemblies. The *ceryx* among the Greeks answered to the *praeco* among the Romans. Our criers have only a small part of their office and authority.

There were two kinds of ceryces, *civil* and *sacred*. The former were those appointed to call assemblies and make silence therein; also to go on messages, and do the office of our heralds, &c. The sacred ceryces were a sort of priests, whose office was to proclaim silence in the public games and sacrifices, publish the names of the conquerors, proclaim feasts, and the like. The priesthood of the ceryces was annexed to a particular family, the descendants of Ceryx, son of Eumolphus. To them it also belonged to lead solemn victims to slaughter. Before the ceremonies began, they called silence in the assembly, by the formula, Ευφημιστε αιγυ πας εστω λεως: answering to the *favete linguis* of the Romans. When the service was over, they dismissed the people with this formula, Δαων αφεσις, *Ite missa est*.

CESARE, among logicians, one of the modes of the second figure of syllogisms; the minor proposition of which is an universal affirmative, and the other two universal negatives: thus,

Ca No immoral books ought to be read;
Sa But every obscene book is immoral;
Re Therefore no obscene books ought to be read.

CECENA, a town of Romagna in Italy, with a bishop's see, subject to the pope, and seated on the river Savio, in E. Long. 12. 46. N. Lat. 44. 8.

CESPITOSÆ PLANTÆ (from *cespes*, turf or sod), are those plants which produce many stems from one root, and thence form a close thick carpet on the surface of the earth.

Cespitosæ Paludes, turf-bogs.

CESSATION, the act of intermitting, discontinuing or interrupting the course of any thing, work, action, or the like.

Cessation of Arms, an armistice or occasional truce. See Truce.

When the commander of a place finds things reduced to an extremity, so that he must either surrender, or sacrifice the garrison and inhabitants to the mercy of the enemy, he plants a white flag on the breach, or beats the chamade; on which a cessation of arms and hostilities commences, to give room for a capitulation.

CESSIO BONORUM, in Scots law, the name of that action by which an insolvent debtor may apply for liberation from prison, upon making over his whole real and personal estate to his creditors.

CESSION, in law, an act by which a person surrenders and transmits to another person a right which belonged to himself. Cession is more particularly used in the civil law for a voluntary surrender of a person's effects to his creditors, to avoid imprisonment. See the article Bankrupt.

In several places the cession carried with it a mark of infamy, and obliged the person to wear a green cap or bonnet; at Lucca, an orange one: to neglect this was to forfeit the privileges of the *cession*. This was originally intended to signify that the cessionary was become poor through his own folly. The Italian lawyers describe the ceremony of cession to consist in striking the bare breech three times against a stone, called *Lapis Vituperii*, in presence of the judge. Formerly it consisted in giving up the girdles and keys in court: the ancients using to carry at their girdles the chief utensils wherewith they got their living; as the scrivener his escritoire, the merchant his bag, &c. The form of cession among the ancient Gauls and Romans was as follows: The cessionary gathered up dust in his left hand from the four corners of the house, and standing on the threshold, holding the door-post in his right hand, threw the dust back over his shoulders; then stripping to his shirt, and quitting his girdle and bags, he jumped with a pole over a hedge; hereby letting the world know, that he had nothing left, and that when he jumped all he was worth was in the air with him. This was the cession in criminal matters. In civil cases, it was sufficient to lay a broom, a switch, or a broken straw, on the threshold: this was called *chrenecruda per durpillum et festucam*.

Cession, in the ecclesiastical law, is when an ecclesiastical person is created a bishop, or when a parson of a parish takes another benefice, without dispensation, or being otherwise qualified. In both these cases their first benefices became void by cession, without any resignation; and to those livings that the person had, who was created bishop, the king may present for that time, whosoever is patron of them; and in the other case the patron may present: but by dispensation of retainder, a bishop may retain some or all the preferments he was intitled to before he was made bishop.

CESTRUM, BASTARD JASMINE: A genus of the monogynia order, belonging to the pentandria class of plants; and in the natural method ranking under the 28th order, *Luridæ*. The corolla is funnel-shaped; the stamina each sending out a little tooth about the middle of the inside. There are six species, all of them natives of the warmest parts of America; so cannot be preserved in this country without artificial heat. They are flowering shrubs, rising in height from five to twelve feet, with flowers of a white, herbaceous, or pale yellow colour. The flowers of one species commonly called *Badmington Jasmine*, have the property of sending out a strong scent after sunset. They may be propagated either by seeds or cuttings.

CESTUI, a French word, signifying *he* or *him*, frequently used in the English law writings. Thus, *Cestui qui trust*, a person who has lands, &c. committed to him for the benefit of another; and if such person does not perform his trust, he is compellable to it in chancery. *Cestui qui vie*, one for whose life any lands, &c. are granted. *Cestui qui use*, a person to whose use any one is infeoffed of lands or tenements. Formerly the feoffees to uses were deemed owners of the

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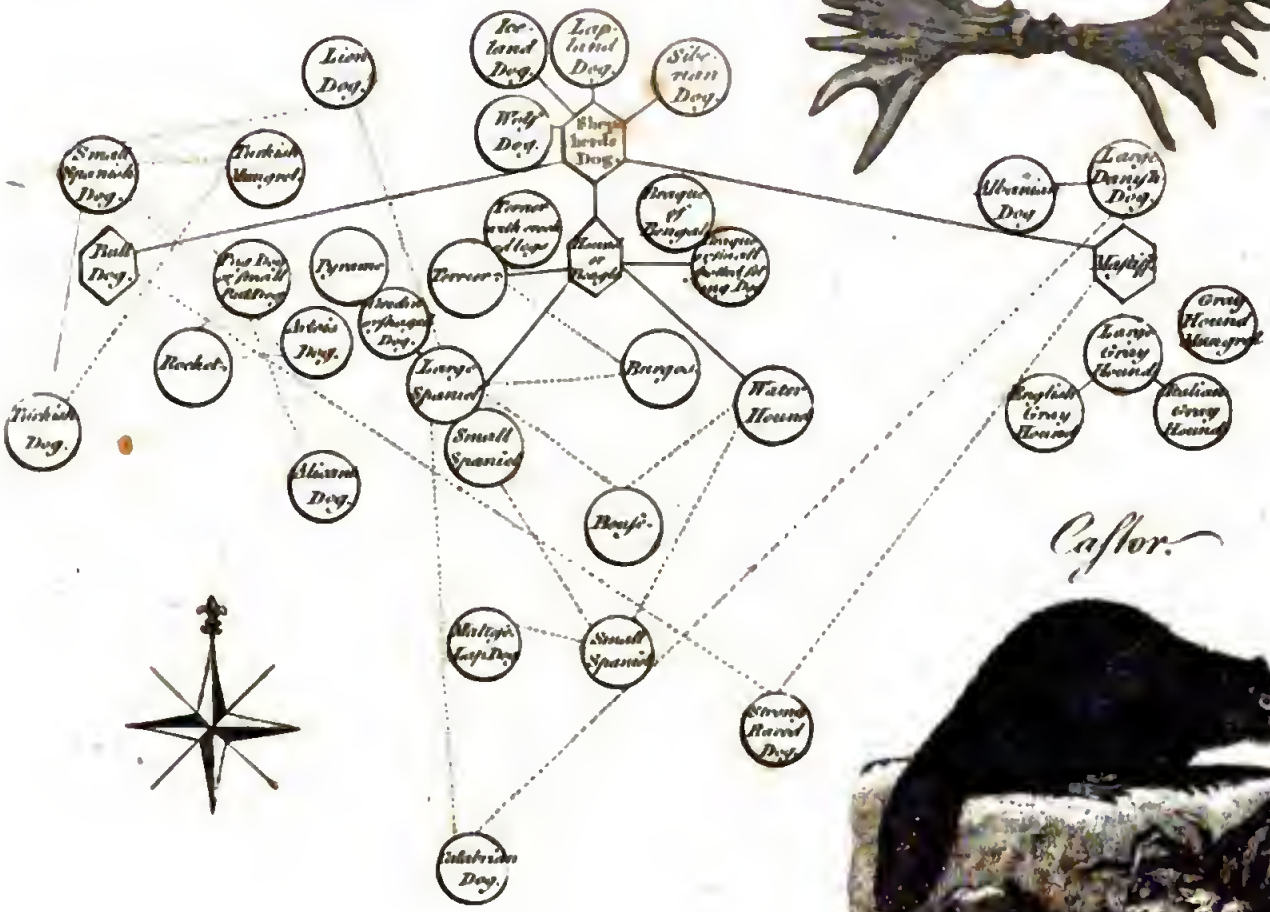
Axis.

Moose Deer.

CANIS.



Castor.

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Ceſtus || Cette.

the land, but now the poſſeſſion is adjudged in *ceſtui qui uſe*.

CESTUS, among ancient poets, a fine embroidered girdle ſaid to be worn by Venus, to which Homer aſcribes the power of charming and conciliating love. The word is alſo written *ceſtum* and *ceſton*: it comes from κεστὸς, *a girdle*, or other thing embroidered or wrought with a needle; derived, according to Servius, from κεντεῖν, *pungere*; whence alſo *inceſtus*, a term uſed at firſt for any indecency by undoing the girdle, &c. but now reſtrained to that between perſons near akin. See INCEST.

CETACEOUS, an appellation given to the fiſhes of the whale kind; the characters of which are: they have no gills; there is an orifice on the top of the head, through which they breathe and eject water; and they have a flat or horizontal tail.

Nature on this tribe hath beſtowed an internal ſtructure in all reſpects agreeing with that of quadrupeds; and in a few others the external parts in both are ſimilar. Cetaceous fiſh, like land animals, breathe by means of lungs, being deſtitute of gills. This obliges them to riſe frequently on the ſurface of the water to reſpire, to ſleep on the ſurface, as well as to perform ſeveral other functions. They have the power of uttering ſounds, ſuch as bellowing and making other noiſes denied to genuine fiſh. Like land animals they have warm blood, are furniſhed with organs of generation, copulate, bring forth, and ſuckle their young, ſhowing a ſtrong attachment to them. Their bodies beneath the ſkin are entirely ſurrounded with a thick layer of fat (blubber), analogous to the lard on hogs. The number of their fins never exceed three, *viz.* two pectoral fins, and one back fin; but in ſome ſpecies the laſt is wanting. Their tails are placed horizontally, or flat in reſpect to their bodies; contrary to the direction of thoſe of all other fiſh, which have them in a perpendicular ſite. This ſituation of the tail enables them to force themſelves ſuddenly to the ſurface of the water to breathe, which they are ſo frequently conſtrained to do. Many of theſe circumſtances induced Linnæus to place this tribe among his *mammalia*, or what other writers call *quadrupeds* *. To have preſerved the chain of beings entire, he ſhould in this caſe have made the genus of *phoca* or *ſeals*, and that of the *trichecus* or *manati*, immediately precede the whale, thoſe being the links that connect the mammalia or quadrupeds with the fiſh: for the ſeal is, in reſpect to its legs, the moſt imperfect of the former claſs; and in the manati the hind feet coaleſce, aſſuming the form of a broad horizontal tail.

* See Zoology.

Notwithſtanding the many parts and properties which cetaceous fiſh have in common with land animals, yet there ſtill remain others which render it more natural to place them, with Ray, in the rank of fiſh: the form of their bodies agrees with that of fiſh; they are entirely naked, or covered only with a ſmooth ſkin; they live conſtantly in the water, and have all the actions of fiſh.

CETE, the name of Linnæus's ſeventh order of mammalia, comprehending the MONODON, BALÆNA, PHYSETER, and DELPHINUS.

CETERACH, in botany, the trivial name of a ſpecies of ASPLENIUM.

CETTE, a maritime town of France, in Languedoc, ſeated at the place where the canal of Languedoc begins, between Montpellier and Agde, on the bay of Maguelona in the Mediterranean ſea. E. Long. 3. 15. N. Lat. 43. 25. Cetus || Ceylon.

CETUS, in aſtronomy, the whale; a large conſtellation of the ſouthern hemiſphere, under Piſces, and next the water of Aquarius. The ſtars in the conſtellation Cetus, in Ptolemy's catalogue, are twenty-two; in Tycho's twenty-one; in Hevelius's forty-five; in the Britannic catalogue ninety-ſeven.

Cetus is repreſented by the poets, as the ſea-monſter which Neptune, at the inſt of the nymphs, ſent to devour Andromeda for the pride of her mother, and which was killed by Perſeus. In the mandible of cetus is a variable ſtar which appears and diſappears periodically, paſſing through the ſeveral degrees of magnitude both increaſing and diminiſhing, in about 333 days. See ASTRONOMY, n° 45.

CEVA, a ſtrong town of Piedmont in Italy, ſeated on the river Tanero, with a ſtrong fort, in E. Long. 8. 8. N. Lat. 44. 20.

CEVENNES, mountains of Languedoc in France, remarkable for the frequent meetings of the Proteſtants there as a place of ſecurity againſt the tyranny of their governors. In queen Anne's reign there was an attempt made to aſſiſt them by an Engliſh fleet in the Mediterranean; but to no purpoſe, for the French had occupied the paſſages.

CEUTA, a maritime town of Barbary in Africa, and in the kindom of Fez, ſeated on the ſtraits of Gibraltar, oppoſite that place, in W. Long 6. 25. N. Lat. 36. 35. John king of Portugal took it from the Moors in 1415, but it now belongs to Spain. In 1697, it ſuſtained a vigorous ſiege by the Moors.

CEYLON, a large iſland in the Eaſt Indies, about 250 miles in length and 200 in breadth. It abounds in trees and ſhrubs, valuable both on account of their timber and the gums or ſpices they produce. Among theſe Mr Ives enumerates the euphorbium, tulip-tree, ebony, red-wood, caſſia, cocoa-nut, cotton, lime, mangoe, citron, coffee; the trees producing balſam of capivi, gum gamboge, lac, and *cenquenomale*. This laſt is as yet unknown in Europe; but, according to the information of a Dutch ſurgeon, an oil or balſam is produced from it by diſtillation, which is of great uſe in paralytic complaints. There is alſo another gum named *badule*, which has been but lately diſcovered, and of which the uſe is as yet unknown. Here is alſo the black and yellow *teak*, the wood of which is of a moſt beautiful grain, but ſo hard that the cutting of it proves very deſtructive to the carpenters tools. But the moſt remarkable, as well as the moſt uſeful, of the vegetable productions of Ceylon, is the cinnamon-tree, which grows wild in every wood on the ſouth-weſt part of the iſland. The very young trees are not fit for rinding, and the old ones are cut down for firewood. The common flowering ſhrubs, of which the whole iſland is full, ſend forth a moſt agreeable fragrance every morning and evening. It abounds with high hills, between which the ſoil is a fat red earth; and the valleys are extremely pleaſant, having a clear rivulet running thro' almoſt every one of them. Thus the fineſt fruits grow in vaſt plenty, and may be had at the moſt trifling rates; a pine-apple being bought for leſs than a penny, and ſo of the reſt. Other proviſions are almoſt equally cheap;

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Ceylon

cheap; a dozen of fowls or five ducks being ſold for a rupee, not quite half-a-crown of Engliſh money. Here the Dutch ſhow a poiſonous fruit called by them *Adam's apple*. In ſhape it reſembles the quarter of an apple cut out, with the two inſides a little convex, and a continued ridge along the outer edges; and is of a beautiful orange colour. Pepper, ginger, and cardamoms, are alſo produced here; as well as five kinds of rice, which ripen one after another.

Ceylon produces alſo topazes, garnets, rubies, and other precious ſtones, which are diſcovered by waſhing the ſoil wherein they grow. It has likewiſe ores of copper, iron, and probably of tin, with veins of black cryſtal.

Common deer are found in this iſland in great abundance, as well as Guinea-deer; but the horned cattle are both very ſmall and ſcarce, ſix of them weighed, all together, but 714 pounds, and one of theſe weighed only 70 pounds. They have, however, the largeſt and beſt elephants in the world; and their woods are infeſted by tygers, the moſt terrible of all ravenous beaſts. They abound alſo with ſnakes of a monſtrous ſize, one of which has been known to deſtroy a tyger and devour him at one meal. Mr Ives ſaw one 15 feet long and 30 inches in circumference. Spiders, centipedes, and ſcorpions, alſo grow here to an enormous ſize. Our author ſaw a ſpider here as large as a toad, with brown hair upon it, and legs as thick as the ſhank of a large tobacco-pipe. A ſcorpion, taken out of a piece of wood, was eight inches long, from head to tail, excluſive of the claws; the ſhell was as hard as that of a crab: and our author killed a centipede more than ſeven inches long. Here the *mantis* or creeping leaf is met with; which our author ſuppoſes to be a ſpecies of graſshopers, having every member we ſee in common inſects, though in ſhape and appearance it greatly reſembles a leaf. It is of a green colour. The ſea-coaſts abound with fiſh, which are to be had very cheap. Neither harp-ſhells nor ventle-traps are to be met with here: but there are abundance of painted cockles, and others commonly called *panama ſhells*.

"The natives of this iſland (ſays our author) are the ſtouteſt Indians I ever ſaw. Mr Knox in his hiſtory reports many ſtrange things of their religion and cuſtoms, none of which I had any opportunity of ſeeing. He ſays 'that they have various ways of treating their dead. Some burn them, which is not uncommon in India; while others throw their limbs up into the forks of trees.' This may be true, becauſe when our wood-cutters were once hewing down a ſtick of timber, there fell from it the ſkull and many bones of a human body; and I alſo ſaw here a human body hanging on a tree. Other hiſtorians relate, that the natives of Ceylon feed on human fleſh; nay, that they eat the bodies of their deceaſed parents, imagining that no other ſepulchre is ſo fit for them as their own bowels, ſince thereby they think they are changed into their own ſubſtance, and live again in themſelves. This ſhocking cuſtom is reported of the ancient Scythians, and poſſibly might have been uſed by the inhabitants of Ceylon, but is now in both countries entirely aboliſhed; and yet even at this day theſe iſlanders are ſaid to make cups of their parents ſkulls, with a view, that in midſt of their mirth and jollity they may be ſure to preſerve a reſpectful remembrance of them." Ceylon.

The Ceyluneſe make uſe of boats hollowed out of the trunks of trees, which are about 12 or 14 feet long, but only as many inches broad within. The tree part in the bottom is much larger; but when the boat, on account of the ſize of the tree, is too ſmall, they make a trough on the top of it ſquare at both ends. Some boats, however, are much larger, being built between two trees; and with theſe they coaſt along ſhore; the others are for fiſhermen. It lies from E. Long. 78° to 82°, and from N. Lat. 6° to 10.

The conqueſt of this iſland was the firſt attempt of Albuquerque the celebrated Portugueſe admiral. He found it well peopled, and inhabited by two different nations, the *Bedas* inhabiting the northern, and the *Cinglaſſes* who dwelt in the ſouthern parts. The former were very barbarous, but the latter a good deal more poliſhed. Beſides the advantages already mentioned, which theſe nations derived from their mines of precious ſtones, they carried on the greateſt pearl-fiſhery in the Eaſt. Theſe nations the Portugueſe conquered, and tyrannized over in ſuch a manner, that they aſſiſted the Dutch in expelling them from the iſland; and by their united efforts this was accompliſhed in 1658, after a bloody and obſtinate war. All the Portugueſe ſettlements fell into the hands of the Dutch Eaſt India company, who ſtill keep poſſeſſion of them, excepting a ſmall diſtrict on the eaſtern coaſt without any port, from whence the ſovereign of the country had his ſalt. Theſe ſettlements formed a regular track, extending from two to twelve leagues into the inland parts of the iſland. The company have appropriated all the productions of the iſland. The ſeveral articles of trade are, 1. Amethyſts, ſapphires, topazes, and rubies; the laſt are very ſmall, and very indifferent. The Moors who come from the coaſt of Coromandel buy them, paying a moderate tax: and when they are cut, ſell them at a low price in the different countries of India. 2. Pepper, which the company buy for about 4d. *per* pound: coffee, for which they only pay 2d. and cardamom, which has no fixed price. Theſe articles are all of an inferior quality, and through the indolence of the inhabitants will never turn to any account. 3. An hundred bales of handkerchiefs, pagnes, and gingbams, of a fine red colour, which are fabricated by the Malabars at Jafranapatan. 4. A ſmall quantity of ivory, and about 50 elephants, which are carried to the coaſt of Coromandel. 5. Areca, which the company buys at about 8s. 9d. the ammonan, and ſells on the ſpot at L. 1, 13s. to the merchants of Bengal, Coromandel, and the Maldives; who give in return rice, coarſe linen, and cowries. 6. The pearl-fiſhery, which was formerly of great conſequence; but is now ſo much exhauſted as not to bring in more than L. 8,750 *per annum*. 7. After all, the great object of the company is cinnamon. They purchaſe the greateſt part of their cinnamon of the Indians who are ſubject to them, and, all expences deducted, it does not coſt them above 6d. *per* pound. The annual expences of the colony may amount to about L. 96,250; their revenues and ſmall branches of commerce produce only about L. 87,500. —This deficiency muſt be ſupplied out of the profits

Chace ‖ Chæronea.

fits arising from the cinnamon trade; and they are obliged to provide for the expences of the wars in which they are frequently engaged with the king of Candy, who is at present the sole sovereign of the island. These are very detrimental to the interests of the Hollanders; for which reason they endeavoured to engage the good will of this monarch by shewing him all imaginable civilities. The harmony, however, has been often interrupted. In a bloody war which terminated on the 14th of February 1766, the Ceylonese monarch was driven from his capital, so that the Dutch made a very advantageous treaty. Their sovereignty was acknowledged over all that part of the country they possessed before the troubles broke out; and that part of the coasts held by the natives was ceded to them. They were allowed to gather cinnamon in all the plains; and the court was to sell them the best sort, which is produced in the mountains, at the rate of L. 1 : 16 : 1, for 18 *lb.* The government engaged to have no connection with any foreign power; and even to deliver up any Europeans who might happen to stray into the island. In return for so many concessions, the king was to receive annually the value of the produce of the ceded coasts; and from thence his subjects were to be furnished gratis with as much salt as they had occasion for. The Ceylonese are in the most miserable situation: they are in a state of total inactivity; live in huts without any furniture; and subsist upon fruits: those who are the most affluent have no other covering than a piece of coarse linen wrapt about their waist.

CHACE. See Chase.

CHACO, a large country of South America situated between 19° and 37° S. Lat. It belongs to the Spaniards, by whom it was conquered in 1536. It is not naturally fruitful; but abounds in gold mines, which are so much the more valuable that they are easily worked. The works are carried on by about 8000 blacks, who deliver every day to their masters a certain quantity of gold; and what they can collect above this, belongs to themselves; as well as what they find on those days that are consecrated to religion and rest, upon condition that during the festival they maintain themselves. This enables many of them to purchase their liberty; after which they intermarry with the Spaniards.

CHADCHOD, in Jewish antiquity. Ezekiel mentions *chadchod* among the several merchandizes which were brought to Tyre. The old interpreters, not very well knowing the meaning of this term, continued it in their translation. St Jerom acknowledges that he could not discover the interpretation of it. The Chaldee interprets it pearls; others think that the onyx, ruby, carbonck, crystal, or diamond is meant by it.

CHÆRONEA, (anc. geog.), the last town, or rather the last village, of Bœotia, towards Phocis; the birthplace of Plutarch: famous for the fatal defeat of the confederate Greeks by Philip of Macedon. This place was considered by Philip as well adapted to the operations of the Macedonian phalanx; and the ground for his encampment, and afterwards the field of battle, were chosen with equal sagacity: having in view on one side a temple of Hercules, whom the Macedonians regarded as the author of their royal house, and the high protector of their fortune; and on the other the banks of the Thermodon, a small river flowing into the Cephissus, announced by the oracles of Greece as the destined scene of desolation and woe to their unhappy country. The generals of the confederate Greeks had been much less careful to avail themselves of the powerful sanctions of superstition. Unrestrained by inauspicious sacrifices, the Athenians had left their city at the exhortation of Demosthenes, to wait no other omen but the cause of their country. Regardless of oracles, they afterwards advanced to the ill-fated Thermodon, accompanied by the Thebans, and the scanty reinforcements raised by the islands and states of Peloponnesus which had joined their alliance. Their army amounted to 30,000 men, animated by the noblest cause for which men can fight, but commanded by the Athenians Lysicles and Chares; the first but little, and the second unfavourably, known; and by Theagenes the Theban, a person strongly suspected of treachery: all three creatures of cabal and tools of faction, slaves of interest or voluptuousness, whose characters (especially as they had been appointed to command the only states whose shame, rather than virtue, yet opposed the public enemy) are alone sufficient to prove that Greece was ripe for ruin. Chæronea.

When the day approached for abolishing the tottering independence of those turbulent republics, which their own internal vices, and the arms and intrigues of Philip, had been gradually undermining for 22 years, both armies formed in battle array before the rising of the sun. The right wing of the Macedonians was headed by Philip, who judged proper to oppose in person the dangerous fury of the Athenians. His son Alexander, only 19 years of age, but surrounded by experienced officers, commanded the left wing, which faced the Sacred Band of the Thebans. The auxiliaries of either army were posted in the centre. In the beginning of the action, the Athenians charged with impetuosity, and repelled the opposing divisions of the enemy; but the youthful ardour of Alexander obliged the Thebans to retire, the Sacred Band being cut down to a man. The activity of the young prince completed their disorder, and pursued the scattered multitude with his Thessalian cavalry.

Meantime the Athenian generals, too much elated by their first advantage, lost the opportunity to improve it; for having repelled the centre and right wing of the Macedonians, except the phalanx, which was composed of chosen men, and immediately commanded by the king, they, instead of attempting to break this formidable body by attacking it in flank, pressed forward against the fugitives, the insolent Lysicles exclaiming in vain, triumph, "Pursue, my brave countrymen! let us drive the cowards to Macedon." Philip observed this rash folly with contempt; and saying to those around him, "Our enemies know not how to conquer," commanded his phalanx, by a rapid evolution, to gain an adjacent eminence, from which they poured down, firm and collected, on the advancing Athenians, whose confidence of success had rendered them totally insensible to danger. But the irresistible shock of the Macedonian spear converted their fury into despair. Above a thousand fell, two thousand were taken prisoners;

Chætones. foners; the reſt eſcaped by a precipitate and ſhameful flight. Of the Thebans more were killed than taken. Few of the confederates periſhed, as they had little ſhare in the action, and as Philip, perceiving his victory to be complete, gave orders to ſpare the vanquiſhed, with a clemency unuſual in that age, and not leſs honourable to his underſtanding than his heart; ſince his humanity thus ſubdued the minds, and gained the affections, of his conquered enemies.

According to the Grecian cuſtom, the battle was followed by an entertainment, at which the king preſiding in perſon, received the congratulations of his friends, and the humble ſupplications of the Athenian deputies, who craved the bodies of their ſlain. Their requeſt, which ſerved as an acknowledgment of their defeat, was readily granted; but before they availed themſelves of the permiſſion to carry off their dead, Philip, who with his natural intemperance had protracted the entertainment till morning, iſſued forth with his licentious companions to viſit the field of battle; their heads crowned with feſtive garlands, their minds intoxicated with the inſolence of wine and victory; yet the ſight of the ſlaughtered Thebans, which firſt preſented itſelf to their eyes, and particularly the ſacred band of friends and lovers, who lay covered with honourable wounds on the ſpot where they had been drawn up to fight, brought back theſe inſolent ſpectators to the ſentiments of reaſon and humanity. Philip beheld the awful ſcene with a mixture of admiration and pity; and, after an affecting ſilence, denounced a ſolemn curſe againſt thoſe who baſely ſuſpected the friendſhip of ſuch brave men to be tainted with criminal and infamous paſſions.

But this ſerious temper of mind did not laſt long; for having proceeded to that quarter of the field where the Athenians had fought and fallen, the king abandoned himſelf to all the levity and littleneſs of the moſt petulent joy. Inſtead of being impreſſed with a deep ſenſe of his recent danger, and with dutiful gratitude to Heaven for the happineſs of his eſcape and the importance of his victory, Philip only compared the boaſtful pretenſions with the mean performances of his Athenian enemies; and, ſtruck by this contraſt, rehearſed, with the inſolent mockery of a buffoon, the pompous declaration of war lately drawn up by the ardent patriotiſm and too ſanguine hopes of Demoſthenes. It was on this occaſion that the orator Demades at once rebuked the folly, and flattered the ambition, of Philip, by aſking him, Why he aſſumed the character of Therſites when fortune aſſigned him the part of Agamemnon?

Whatever might be the effect of this ſharp reprimand, it is certain that the king of Macedon indulged not, on any future occaſion, a vain triumph over vanquiſhed. When adviſed by his generals to advance into Attica, and to render himſelf maſter of Athens, he only replied, "Have I done ſo much for glory, and ſhall I deſtroy the theatre of that glory?" His ſubſequent conduct correſponded with the moderation of this ſentiment. He reſtored without ranſom the Athenian priſoners; who, at departing, having demanded their baggage, were alſo gratified in this particular; the king pleaſantly obſerving, that the Athenians ſeemed to think he had not conquered them in earneſt. Soon afterwards he diſpatched his ſon Alexander, and Antipater, the moſt truſted of his miniſters, to offer them peace on ſuch favourable terms as they had little reaſon to expect. They were required to ſend deputies to the Iſthmus of Corinth, where, to adjuſt their reſpective contingents of troops for the Perſian expedition, Philip purpoſed aſſembling early in the ſpring a general convention of all the Grecian ſtates: they were ordered to ſurrender the iſle of Samos, which actually formed the principal ſtation of their fleet, and the main bulwark and defence of all their maritime or inſular poſſeſſions; but they were allowed to enjoy, unmoleſted, the Attic territory, with their hereditary form of government. Chærophyllum. Chaff-cutter.

CHÆROPHYLLUM, Chervil: A genus of the digynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 45th order, *Umbellatæ*. The involucrum is reflexed-concave; the petals inflexed-cordate; the fruit oblong and ſmooth. There are ſeven ſpecies, two of which, called cow-weed and wild chervil, are weeds common in many places of Britain. The roots of the firſt have been found poiſonous when uſed as parſnips: the rundles afford an indifferent yellow dye; the leaves and ſtalks a beautiful green. Its preſence indicates a fertile and grateful ſoil. It ought to be rooted out from all paſtures early in the ſpring, as no animal but the aſs will eat it. It is one of the moſt early plants in ſhooting, ſo that by the beginning of April the leaves are near two feet high. The leaves are recommended by Geoffroy as aperient and diuretic, and at the ſame time grateful to the palate and ſtomach. He even aſſerts, that dropſies which do not yield to this medicine can ſcarcely be cured by any other. He directs the juice to be given in the doſe of three or four ounces every fourth hour, and continued for ſome time either alone, or in conjunction with nitre and ſyrup of the five opening roots.—The other ſpecies of chærophyllum are not poſſeſſed of any remarkable property.

CHÆTODON, in ichthyology, a genus of fiſhes belonging to the order of thoraci. The teeth are very numerous, thick, ſetaceous, and flexile; the rays of the gills are ſix. The back-fin and the fin at the anus are fleſhy and ſquamous. There are 23 ſpecies, diſtinguiſhed from each other principally by the figure of the tail, and the number of ſpines in the back-fin. The moſt remarkable is the roſtratus, or ſhooting-fiſh, having a hollow, cylindrical beak. It is a native of the Eaſt Indies, where it frequents the ſides of the ſea and rivers in ſearch of food, from its ſingular manner of obtaining which it receives its name. When it ſpies a fly ſitting on the plants that grow in ſhallow water, it ſwims on to the diſtance of four, five, or ſix feet; and then, with a ſurpriſing dexterity, it ejects out of its tubular mouth a ſingle drop of water, which never fails ſtriking the fly into the water, where it ſoon becomes its prey.

CHAFF, in huſbandry, the huſks of the corn, ſeparated by ſereening or winnowing it. It ſignifies alſo the rind of corn, and ſtraw cut ſmall for the uſe of cattle.

Chaff-Cutter, a machine for making chaff to feed horſes.—The advantages of an eaſy and expeditious method of cutting ſtraw into chaff by an engine which could be uſed by common labourers have been long

Chaff-cutter || Chaffery.

long acknowledged, and various attempts have been made to bring ſuch an engine to perfection. But the objections to moſt of them have been their complicated ſtructure, their great price, and the noiſe they make in working; all which inconveniences ſeem to have been lately removed by an invention of Mr James Pike watchmaker of Newton Abbot in Devonſhire. Of his engine, which is of a ſimple and cheap conſtruction, the following deſcription, and figure referred to, are extracted from the Tranſactions of the Society of Arts for 1787.

The engine is fixed on a wood frame, which is ſupported with four legs, and on this frame is a box for containing the ſtraw, four feet ſix inches long, and about ten inches broad; at one end is fixed acroſs the box two rollers inlaid with iron, in a diagonal line about an eighth of an inch above the ſurface; on the ends of theſe rollers are fixed two ſtrong braſs wheels, which takes one into the other. On one of theſe wheels is a contrect wheel, whoſe teeth take in a worm on a large arbour; on the end of this arbour is fixed a wooden wheel, two feet five inches diameter and three inches thick; on the inſide-part of this wheel is fixed a knife, and every revolution of the wheel the knife paſſes before the end of the box and cuts the chaff, which is brought forward between the rollers, which are about two inches and a half aſunder; the ſtraw is brought on by the worm taking one tooth of the wheel every round of the knife; the ſtraw being ſo hard preſſed between the rollers, the knife cuts off the chaff with ſo great eaſe, that twenty-two buſhels can be cut within the hour, and makes no more noiſe than is cauſed by the koiſe paſſing through the chaff.

Plate CXXXVI.

A is the box into which the ſtraw is put. *B*, the upper roller, with its diagonal projecting ribs of iron, the whole moving by the revolution of the braſs wheel *C* on the axis of which it is fixed. *D*, a braſs wheel, having upon it a face wheel, whoſe teeth take into the endleſs ſcrew on the arbor *E*, while the teeth on the edge of this wheel enter between thoſe on the edge of the wheel *C*. On the axis of the wheel *D* is a roller, with iron ribs ſimilar to *B*, but hid within the box. *E*, the arbor, one of the ends of which being made ſquare and paſſing through a mortiſe in the centre of the wooden wheel *F*, is faſtened by a ſtrong ſcrew and nut; the other end of this arbor moves round in a hole within the wooden block *G*. *H*, the koiſe, made faſt by ſcrews to the wooden wheel *F*, and kept at the diſtance of nearly three quarters of an inch from it by means of a ſtrip of wood of that thickneſs, of the form of the blade, and reaching to within an inch of the edge. *I*, the handle mortiſed into the outſide of the wooden wheel *F*.

CHAFFER, in zoology, a ſpecies of beetle. See SCARABÆUS.

CHAFFERCONNERS, in commerce, printed linens manufactured in the Great Mogul's dominions. They are imported by the way of Surat; and are of the number of thoſe linens prohibited in France.

CHAFFERY, in the iron-works, the name of one of the two principal forges. The other is called the *finery*. When the iron has been brought at the finery into what is called an ancony, or ſquare maſs, hammered into a bar in its middle, but with its two ends rough, the buſineſs to be done at the chaffery is the reducing the whole to the ſame ſhape, by hammering down theſe rough ends to the ſhape of the middle part.

Chaffinch || Chain.

CHAFFINCH, in ornithology, the Engliſh name of a ſpecies of FRINGILLA.

CHAGRE, a fort of America in the province of Darien at the mouth of a river of the ſame name. It has been taken ſeveral times by the buccaneers, and laſt of all by Admiral Vernoo in 1740. W. Long. 82. 7. N. Lat. 9. 50.

CHAIN *(Catena)*, a ſeries of ſeveral rings, or links, fitted into one another.

There are chains of divers matters, ſizes, forms, and for divers uſes.—Ports, rivers, ſtreets, &c. are cloſed with iron chains: rebellious cities are puniſhed by taking away their chains and barriers.

The arms of the kingdom of Navarre are, *Chains Or, in a field Gules*. The occaſion hereof is referred to the kings of Spain leagued againſt the Moors; who having gained a celebrated victory againſt them in 1212, in the diſtribution of the ſpoils the magnificent tent of Miramumin fell to the king of Navarre, as being the firſt that broke and forced the chains thereof.

A gold CHAIN, is one of the ornaments or badges of the dignity of the chief magiſtrates of a city, as the mayor of London, the provoſt and bailies of Edinburgh, &c.—Something like this obtained among the ancient Gauls: the principal ornament of their perſons in power and authority was a gold chain, which they wore on all occaſions; and even in battle, to diſtinguiſh them from the common ſoldiers.

CHAIN alſo denotes a kind of ſtring, of twiſted wire; ſerving to hang watches, tweezer-caſes, and other valuable toys upon. The invention of this piece of curious work is owing to the Engliſh; whence, in foreign countries, it is denominated the *Engliſh chain*. Theſe chains are uſually either of ſilver or gold, ſome of gilt copper; the thread or wire of each kind to be very fine.—For the fabric, or making of theſe chains: a part of the wire is folded into little links of an oval form; the longeſt diameter about three lines; the ſhorteſt, one. Theſe, after they have been exactly ſoldered, are again folded into two; and then bound together or interwove, by means of ſeveral other little threads of the ſame thickneſs; ſome whereof, which paſs from one end to the other, imitate the warp of a ſtuff; and the others, which paſs tranſverſe, the woof. There are at leaſt four thouſand little links in a chain of four pendants; which are by this means bound ſo equally, and withal ſo firmly together, that the eye is deceived, and takes the whole to conſiſt of one entire piece.

CHAIN is alſo a kind of meaſure in France, in the trade of wood for fuel. There are chains for wood by tale, for wood by the rope, for faggots, for cleft wood, and for round ſticks. There are alſo chains for meaſuring the ſheaves of all ſorts of corn, particularly with regard to the payment of tithes; for meaſuring pottles of hay, and for meaſuring horſes. All theſe are divided into feet, inches, hands, &c. according to the uſe they are deſigned for.

CHAIN, in ſurveying, is a meaſure, conſiſting of a certain number of links of iron wire, uſually a hundred; ſerving to take the dimenſions of fields, &c.

Chains. This is what Merſenne takes to be the arvipendium of the ancients.

The chain is of various dimenſions, as the length or number of links varies: that commonly uſed in meaſuring land, called Gunter's chain, is in length four poles or perches; or ſixty-ſix feet, or a hundred links; each link being ſeven inches $\frac{92}{100}$. Whence it is eaſy to reduce any number of thoſe links to feet, or any number of feet to links.

This chain is entirely adapted to Engliſh meaſures; and its chief convenience is in finding readily the numbers contained in a given field. Where the proportions of ſquare feet and acres differ, the chain, to have the ſame advantages as Gunter's chain, muſt alſo be varied. Thus in Scotland, the chain ought to be of 74 feet, or 24 Scotch ells, if no regard be had to the difference between the Scotch and Engliſh foot; but if regard be had to this difference, the Scotch chain ought to conſiſt of 74$\frac{1}{2}$ Engliſh feet, or 74 feet 4 inches and $\frac{1}{2}$ of an inch. This chain being divided into an hundred links, each of theſe will be $8\frac{928}{1000}$ inches.

That ordinarily uſed for large diſtances, is in length a hundred feet; each link one foot. For ſmall parcels, as gardens, &c. is ſometimes uſed a ſmall chain of one pole, or ſixteen feet and a half length; each link one inch $\frac{99}{100}$.

Some in lieu of chains uſe ropes; but theſe are liable to ſeveral irregularities; both from the different degrees of moiſture, and of the force which ſtretches them Schwenterus, in his Practical Geometry, tells us, he has obſerved a rope ſixteen feet long, reduced to fifteen in an hour's time, by the mere falling of a hoar froſt. To obviate theſe inconveniences, Wolfius directs, that the little ſtrands whereof the rope conſiſts be twiſted contrary ways, and the rope dipped in boiling hot oil; and when dry, drawn through melted wax. A rope thus prepared, will not get or loſe any thing in length, even though kept under water all day.

Chain-Pump. See Pump.

Chain-Shot, two bullets with a chain between them. They are uſed at ſea to ſhoot down yards or maſts, and to cut the ſhrouds or rigging of a ſhip.

Top-Chain, on board a ſhip, a chain to ſling the ſail-yards in time of battle, in order to prevent them from falling down when the ropes by which they are hung happen to be ſhot away or rendered incapable of ſervice.

Plate CXXXVI *Chain-Wales*, or *Channels*, of a ſhip, *porteboiſſoirs*, are broad and thick planks projecting horizontally from the ſhip's outſide, abreaſt of and ſomewhat behind the maſts. They are formed to extend the ſhrouds from each other, and from the axis or middle line of the ſhip, ſo as to give a greater ſecurity and ſupport to the maſts, as well as to prevent the ſhrouds from damaging the gunwale, or being hurt by rubbing againſt it. Every maſt has its chain-wales, which are either built above or below the ſecond deck-ports in a ſhip of the line: they are ſtrongly connected to the ſide by knees, bolts, and ſtandards, beſides being confined thereto by the chains whoſe upper ends paſs through notches on the outer edge of the chain-wales, ſo as to unite with the ſhrouds above.

Chains, in ſhip-building, are ſtrong links or plates of iron, the lower ends of which are bolted through the ſhip-ſide to the timbers. Chains & Chairman.

Hanging in Chains, a kind of puniſhment inflicted on murderers. By ſtat. 25. Geo. II. c. 37. the judge ſhall direct ſuch to be executed on the next day but one, unleſs Sunday intervene; and their bodies to be delivered to the ſurgeons to be diſſected and anatomized: and he may direct them afterwards to be hung in chains. During the interval between ſentence and execution, the priſoner ſhall be kept alone, and ſuſtained only with bread and water. The judge, however, hath power to reſpite the execution, and relax the other reſtraints of the act.

Chain-Iſland, an iſland lately diſcovered by captain Wallis in the South-ſea. It ſeemed to be about five miles long and as much broad, lying in the direction of north-weſt and ſouth-eaſt. It appeared to be a double range of woody iſlands joined together by reefs, ſo as to compoſe one iſland of an oval figure, with a lake in the middle. The trees are large; and from the ſmoke that iſſued from the woods, it appeared to be inhabited. W. Long. 145. 54. S. Lat. 17. 23.

CHAJOTLI, or Chayoti, a Mexican fruit of a round ſhape, and ſimilar in the huſk with which it is covered to the cheſnut, but four or five times larger, and of a much deeper green colour. Its kernel is of a greeniſh white, and has a large ſtone in the middle, which is white, and like it in ſubſtance. It is boiled, and the ſtone eat with it. This fruit is produced by a twining perennial plant, the root of which is alſo good to eat. See Plate CXXXVIII.

CHAIR, *(Cathedra)*, was anciently uſed for the pulpit, or ſuggeſtum, whence the prieſt ſpoke to the people.

It is ſtill applied to the place whence profeſſors and regents in univerſities deliver their lectures, and teach the ſciences to their pupils: thus, we ſay, the profeſſor's chair, the doctor's chair, &c.

Curule Chair, was an ivory ſeat placed on a car, wherein were ſeated the prime magiſtrates of Rome, and thoſe to whom the honour of a triumph had been granted.

Sedan Chair, a vehicle ſupported by poles, wherein perſons are carried; borne by two men. There are two hundred chairs allowed by act of parliament; and no perſon is obliged to pay for a hackney-chair more than the rate allowed by the act for a hackney-coach driven two third parts of the ſaid diſtance. 9 Ann. c. 23. § 8. Their number is ſince increaſed, by 10 Ann. c. 19. and 12 Geo. I. c. 12. to four hundred. See *Hackney-Coaches*.

Chair is alſo applied by the Romaniſts to certain feaſts, held anciently in commemoration of the tranſlation of the ſee, or ſeat of the vicarage of Chriſt, by St Peter.

The perforated chair, wherein the new-elected pope is placed, F. Mabillon obſerves, is to be ſeen at Rome: but the origin thereof he does not attribute, as is commonly done, to the adventure of Pope Joan; but ſays there is a myſtery in it; and it is intended, forſooth, to explain to the pope thoſe words of ſcripture, that *God draws the poor from out of the duſt and mire.*

CHAIRMAN, the president, or ſpeaker of an aſſembly,

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Chaiſe ‖ Chalcedony.

aſſembly, company, &c. We ſay, the chairman of a committee, &c.

CHAISE, a ſort of light open chariot, or calaſh. Aurelius Victor relates, that Trajan firſt introduced the uſe of poſt-chaiſes: but the invention is generally aſcribed to Auguſtus; and was probably only improved by Trajan, and ſucceeding emperors.

CHALAZA, among naturaliſts, a white knotty ſort of ſtring at each end of an egg, formed of a plexus of the fibres of the membranes, whereby the yolk and white are connected together. See EGG.

CHALCAS, in botany: A genus of the monogynia order, belonging to the pentandria claſs of plants. The calyx is quinqueparvite; the corolla campanulated, with the petals heeled; the ſtigma round-headed and warty.

CHALCEDON, or CALCEDON, anciently known by the names of *Proceraſtis* and *Colbuſa*; a city of Bithynia, ſituated at the mouth of the Euxine, on the north extremity of the Thracian Boſphorus, over againſt Byzantium. Pliny, Strabo, and Tacitus, call it *The City of the Blind*; alluding to the anſwer which the Pythian Apollo gave to the founders of Byzantium, who, conſulting the oracle relative to a place where to build a city, were directed to chooſe that ſpot which lay oppoſite "to the habitation of the blind;" that is, as was then underſtood, to Chalcedon: the Chalcedonians well deſerving that epithet for having built their city in a barren and ſandy ſoil, without ſeeing that advantageous and pleaſant ſpot on the oppoſite ſhore, which the Byzantines afterwards choſe.—Chalcedon, in the Chriſtian times, became famous on account of the council which was held there againſt Eutyches. The emperor Valens cauſed the walls of this city to be levelled with the ground for ſiding with Procopius, and the materials to be conveyed to Conſtantinople, where they were employed in building the famous Valentinian aqueduct. Chalcedon is at preſent a poor place, known to the Greeks by its ancient name, and to the Turks by that of *Cadiaci*, or "the judges town."

CHALCEDONY, in natural hiſtory, a genus of the ſemipellucid gems. They are of an even and regular, not tabulated ſtructure; of a ſemi-opaque cryſtalline baſis; and variegated with different colours, but thoſe ever diſpoſed in form of miſts or clouds, and, if nicely examined, found to be owing to an admixture of various coloured earths, but imperfectly blended in the maſs, and often viſible in diſtinct moleculæ.—It has been doubted by ſome whether the ancients were at all acquainted with the ſtone we call *chalcedony*; they having deſcribed a Chalcedonian carbuncle and emerald, neither of which can at all agree with the characters of our ſtone; but we are to conſider that they have alſo deſcribed a Chalcedonian jaſper which ſeems to have been the very ſame ſtone as they deſcribe by the word *turbida*, which extremely well agrees with our chalcedony.

There are four known ſpecies of the chalcedony. 1. A bluiſh white one. This is the moſt common of all, and is found in the ſhape of our flints and pebbles, in maſſes of two or three inches or more in diameter. It is of a whitiſh colour, with a faint cloud of blue diffuſed all over it, but always in the greateſt degree near the ſurface. This is a little leſs hard than the oriental onyx. The oriental chalcedonies are the only ones of any value; they are found in vaſt abundance on the ſhores of rivers in all parts of the Eaſt Indies, and frequently come over among the ballaſt of the Eaſt India ſhips. They are common in Sileſia and Bohemia, and other parts of Europe alſo; but with us are leſs hard, more opaque, and of very little value. 2. The dull milky-veined chalcedony. This is a ſtone of little value; and is ſometimes met with among our lapidaries, who miſtake it for a kind of nephritic ſtone. It is of a ſomewhat yelloviſh white or cream colour, with a few milk-white veins. This is principally found in New-Spain. 3. The third is a browniſh, black, dull, and cloudy one, known to the ancients by the name of ſmoky jaſper, or jaſpis capnitis. This is the leaſt beautiful ſtone of all the claſs: it is of a pale browniſh white, clouded all over with a blackiſh miſt, as the common chalcedony is with a blue. It is common both in the Eaſt and Weſt Indies, and in Germany; but is very little valued, and is ſeldom worked into any thing better than the handles of knives. 4. The yellow and red chalcedony is greatly ſuperior to all the reſt in beauty; and is in great repute in Italy, though very little known among us. It is naturally compoſed of an admixture of red and yellow only, on a clouded cryſtalline baſis; but is ſometimes found blended with the matter of common chalcedony, and then is mixed with blue. It is all over of the milky hue of the common chalcedony. This is found only in the Eaſt Indies, and there not plentifully. The Italians make it into beads, and call theſe *caſſidonies*; but they are not determinate in the uſe of the word, but call beads of ſeveral of the agates by the ſame name.—All the chalcedonies readily give fire with ſteel, and make no effervefcence with aqua-fortis.

Chalcedony, Chalcidene.

CHALCIDENE, or CHALCIDICS, (anc. geog.) an inland country of Syria, having Antiochis or Seleucis to the weſt, Cyrrheſtica to the north, to the ſouth Apamene and Cœleſyria, and to the eaſt Chalybonitis; being ſo called from its principal city Chalcis. This province, one of the moſt fruitful in Syria, was ſeized by Ptolemy the ſon of Mennæus during the troubles of Syria, and by him made a ſeparate kingdom. Ptolemy himſelf is ſtyled by Joſephus and Hegeſippus only Prince of Chalcis, but his ſon Lyſanias is honoured both by Joſephus and Dio with the title of King. Upon the death of Antiochus Dionyſius king of Syria, Ptolemy attempted to make himſelf maſter of Damaſcus and all Cœleſyria; but the inhabitants, having an utter averſion to him on account of his cruelty and wickedneſs, choſe rather to ſubmit to Aretas king of Arabia, by whom Antiochus and his whole army had been cut off. He oppoſed Pompey on his entering Syria; but was by him defeated, taken priſoner, and ſentenced to death; which, however, he eſcaped by paying a thouſand talents, and was left alſo in the poſſeſſion of his kingdom. After Ariſtobulus king of Judæa had been poiſoned by the friends of Pompey, and Alexander his ſon beheaded at Antioch, he ſent Philippion his ſon to Aſcalon, whither the widow of Ariſtobulus had retired with her other children, to bring them all to Chalcis; propoſing, as he was in love with one of the daughters named Alexandria, to maintain them in his own kingdom in a manner ſuitable to their rank: but Philippion likewiſe

Chalcidie ll Chalcondy-las.

wife being in love with Alexandria, married her on the way; for which preſumption Ptolemy put him to death on his return, and then took her to wife. On account of this affinity, he ſupported to the utmoſt of his power Antigonus the younger ſon of Ariſtobulus, who took the field at the head of a conſiderable army, but on his entering Judæa was entirely defeated by Herod. Ptolemy ſoon after died, and was ſucceeded by his ſon Lyſanias; who, eſpouſing the cauſe of the Aſmonæan family with great warmth, promiſed to Barzapharnes who commanded the Parthian troops in Syria, and to Pacorus the king's ſon, a thouſand talents and five hundred women, provided they ſhould put Antigonus in poſſeſſion of the kingdom of Judæa, and depoſe Hyrcanus. He was not long after put to death by Marc Antony, at the inſtigation of Cleopatra; who, in order to have his dominions, accuſed him falſely of having entered into an alliance with the Parthians.

CHALCIDIC, CHALCIDICUM, or CHALCEDONTUM, in the ancient architecture, a large magnificent hall belonging to a tribunal or court of juſtice.—Feſtus ſays, it took its name from the city Chalcis; but he does not give the reaſon. Philander will have it to be the court or tribunal where affairs of money and coinage were regulated; ſo called from χαλκος *braſs*, and δικη *juſtice*. Others ſay, the money was ſtruck in it; and derive the word from χαλκος, and οικος, *houſe*. In Vitruvius, it is uſed for the auditory of a baſilica; in other of the ancient writers for a hall or apartment where the heathens imagined their gods to eat.

CHALCIDICE, (anc. geog.) an eaſtern diſtrict of Macedonia, ſtretching northwards between the Sinus Toronæus and Singiticus. Formerly a part of Thrace, but invaded by Philip of Macedon. Named from the city Chalcis near Olynthus.

CHALCIDIUS, a famous platonic philoſopher in the third century, who wrote a commentary, which is eſteemed, on the Timæus of Plato. This work has been tranſlated from the Greek into Latin.

CHALCIS, a city of Chalcidice. See CHALCIDICE. (anc. geog.)—Another of Ætolia, near the mouth of the river Evenus, on the Ionian Sea, at the foot of a cognominal mountain; and therefore called by ſome *Hypochalcis*.—Another of Eubœa (Strabo), on the Euripus, the country of Lycophron the poet, one of the ſeven which formed the conſtellation Pleiades. Now *Negroponte*. E. Long. 24. 30 Lat. 38. 30.—A fourth, the capital of Chalcidene in Syria; diſtinguiſhed by the ſurnames *ad Belum*, a mountain or a river; and *ad Libanum*, from its ſituation (Pliny).

CHALCITIS, one of the diviſions or diſtricts of Meſopotamia, to the ſouth of Anthemuſia, the moſt northern diſtrict, next to Armenia, and ſituated between Edeſſa and Carræ. *Chalcitis* (Pliny), an iſland oppoſite to Chalcedon.

CHALCONDYLAS (Demetrius), a learned Greek, born at Conſtantinople, left that city after its being taken by the Turks, and afterwards taught Greek in ſeveral cities in Italy. He compoſed a Greek grammar; and died at Milan in 1513.

CHALCONDYLAS (Laonicus), a famous Greek hiſtorian of the 15th century, was born at Athens; and wrote an excellent hiſtory of the Turks, from Ottoman, who reigned about the year 1300, to Mahomet II. in 1463.

CHALDEA (anc. geog.), taken in a larger ſenſe, included Babylonia; as in the prophecies of Jeremiah and Ezekiel. In a reſtricted ſenſe, it denoted a province of Babylonia, towards Arabia Deſerta; called in Scripture *The land of the Chaldeans*. Named from Chaſed the fourth ſon of Nahor. See BABYLONIA. Chaldea ll Chalk.

CHALDEE LANGUAGE, that ſpoken by the Chaldeans, or people of Chaldea. It is a dialect of the HEBREW.

CHALDEE Paraphraſe, in the rabbinical ſtyle, is called TARGUM. There are three Chaldee paraphraſes in Walton's Polyglot; *viz.* that of Onkelos, that of Jonathan ſon of Uziel, and that of Jeruſalem.

CHALDRON, a dry Engliſh meaſure, conſiſting of thirty ſix buſhels, heaped up according to the ſealed buſhel kept at Guildhall, London: but on ſhipboard, twenty-one chaldrons of coals are allowed to the ſcore. The chaldron ſhould weigh two thouſand pounds.

CHALICE, the cup or veſſel uſed to adminiſter the wine in the ſacrament, and by the Roman Catholics in the maſs.

The uſe of the chalice, or communicating in both kinds, is by the church of Rome denied to the laity, who communicate only in one kind, the clergy alone being allowed the privilege of communicating in both kinds.

CHALK, *Creta*, is a white earth found plentifully in Britain, France, Norway, and other parts of Europe, ſaid to have been anciently dug chiefly in the iſland of Crete, and thence to have received its name of *Creta*. They have a very eaſy way of digging chalk in the county of Kent in England. It is there found on the ſides of hills; and the workmen undermine it ſo far as appears proper; then digging a trench at the top as far diſtant from the edge as the undermining goes at bottom, they fill this with water, which ſoaks through in the ſpace of a night, upon which the whole flake falls down at once. In other parts of the kingdom, chalk generally lies deeper, and they are forced to dig for it at conſiderable depths, and draw it up in buckets.

Chalk is of two kinds; hard, dry, and firm, or ſoft and unctuous; both of which are adapted to various purpoſes. The hard and dry kind is much the propereſt for burning into lime; but the ſoft and unctuous chalk is beſt for uſing as a manure for lands. Chalk, whether burnt into lime or not, is in ſome caſes an excellent manure. Its mode of operating on the ſoil is explained under the article AGRICULTURE, n° 20, 25, &c.

Pure chalk melts eaſily with alkali and flint into a tranſparent colourleſs glaſs. With alkaline ſalts it melts ſomewhat more difficultly, and with borax ſomewhat more eaſily, than with flint or ſand. It requires about half its weight of borax, and its whole weight of alkali, to fuſe it. Sal mirabile, and ſandiver, which do not vitrify at all with the cryſtalline earths, form, with half their weight of chalk, the firſt a yellowiſh black, the latter a greeniſh, glaſs. Nitre, on the other hand, one of the moſt active fluxes for flint, does not perfectly vitrify with chalk. This earth notably promotes the vitrification of flint; a mixture of the two requiring leſs alkali than either of them ſeparately. If glaſs made from flint and alkali is fur-

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Chalk. ther ſaturated with the flint, ſo as to be incapable of bearing any further addition of that earth without becoming opaque and milky, it will ſtill in a ſtrong fire take up a conſiderable proportion, one-third or one-fourth of its weight, of chalk, without injury to its tranſparency; hence chalk is ſometimes made uſe of in compoſitions for glaſs, as a part of the falt may then be ſpared. Chalk likewiſe has a great effect in melting the ſtony matters intermixed with metallic ores, and hence might be of uſe in ſmelting ores; as indeed limeſtone is uſed for that purpoſe. But it is remarkable, that chalk, when deprived of its fixed air, and converted into limeſtone, loſes much of its diſpoſition to vitrify. It is then found to melt very difficultly and imperfectly, and to render the glaſs opaque and milky.

Chalk readily imbibes water; and hence maſſes of it are employed for drying precipitates, lakes, earthy powders that have been levigated with water, and other moiſt preparations. Its œconomical uſes in cleaning and poliſhing metalline or glaſs utenſils are well known. In this caſe it is powdered and waſhed from any gritty matter it may contain, and is then called *whiting*.— In medicine it is one of the moſt uſeful abſorbents, and is to be looked upon ſimply as ſuch. The aſtringent virtues which ſome have attributed to it have no foundation, unleſs in as far as the earth is ſaturated with an acid, with which it compoſes a ſaline concrete manifeſtly ſub-aſtringent. For the further properties of chalk, ſee CHEMISTRY, *Index*.

Black CHALK, a name given by painters to a ſpecies of earth with which they draw on blue paper, &c. It is found in pieces from two to ten feet long, and from four inches to twenty in breadth, generally flat, but ſomewhat riſing in the middle, and thinner towards the edges, commonly lying in large quantities together. While in the earth, it is moiſt and flaky: but being dried, it becomes conſiderably hard and very light; but always breaks in ſome particular direction; and if attentively examined when freſh broken, appears of a ſtriated texture. To the touch it is ſoft and ſmooth, ſtains very freely, and by virtue of its ſmoothneſs makes very neat marks. It is eaſily reduced into an impalpable ſoft powder without any diminution of its blackneſs. In this ſtate it mixes eaſily with oil into a ſmooth paſte; and being diffuſed through water, it ſlowly ſettles in a black ſlimy or muddy form; properties which make its uſe very convenient to the painters both in oil and water colours. It appears to be an earth quite different from common chalk, and rather of the flaty bituminous kind. In the fire it becomes white with a reddiſh caſt, and very friable, retaining its flaky ſtructure, and looking much like the white flaky maſſes which ſome ſorts of pit-coal leave in burning. Neither the chalk nor theſe aſhes are at all affected by acids.

The colour-ſhops are ſupplied with this earth from Italy or Germany; though ſome parts of England afford ſubſtances nearly, if not entirely, of the ſame quality, and which are found to be equally ſerviceable both for marking and as black paints. Such particularly is the black earth called *kellow*, ſaid by Dr Merret in his *Pinax Rerum Britannicarum* to be found in Lancaſhire; and by Mr Da Coſta, in his hiſtory of foſſils, to be plentiful near the top of Cay-Avon, an high hill in Merionethſhire. Chalk, Challenge.

Red CHALK, an earth much uſed by painters and artificers, and common in the colour-ſhops. It is properly an indurated clayey ochre; and is dug in Germany, Italy, Spain, and France, but in greateſt quantity in Flanders. It is of a fine, even, and firm texture; very heavy, and very hard; of a pale red on the outſide, but of a deep duſky chocolate colour within. It adheres firmly to the tongue, is perfectly inſipid to the taſte, and makes no effervescence with acids.

Chalk-Land. Barley and wheat will ſucceed very well on the better ſort of chalky land, and oats generally do well on any kind of it. The natural produce of this ſort of land in weeds, is that ſort of ſmall vetch called the *fine-tare*, with poppies, may-weed, &c. Sainfoin and hop-clover will generally ſucceed tolerably well on theſe lands; and, where they are of the better ſort, the great clover will do. The beſt manure is dung, old rags, and the ſheep-dung left after folding them

Chalk-Stones, in medicine, ſignify the concretions of calcareous matter in the hands and feet of people violently afflicted with the gout. Leeuwenhoek has been at the pains of examining theſe by the microſcope. He divides them into three parts. The firſt is compoſed of various ſmall parcels of matter looking like white grains of ſand; this is harder and drier, and alſo whiter, than the reſt. When examined with large magnifiers, theſe are found to be compoſed of oblong particles laid cloſely and evenly together: though the whole ſmall ſtones are opaque, theſe component parts of them are pellucid, and reſemble pieces of horſe-hair cut ſhort, only that they are ſomewhat pointed at both ends. Theſe are ſo extremely thin, that Mr Leeuwenhoek computes that 1000 of them placed together would not amount to the ſize of one hair of our heads. The whole ſtones in this harder part of the chalk are not compoſed of theſe particles, but there are confuſedly thrown in among them ſome broken parts of other ſubſtances, and in a few places ſome globules of blood and ſmall remains of other juices. The ſecond kind of chalky matter is leſs hard and leſs white than the former, and is compoſed of fragments or irregular parts of thoſe oblong bodies which compoſe the firſt or hardeſt kind, and theſe are mixed among tough and clear matter, interſperſed with the ſmall broken globules of blood diſcoverable in the former, but in much greater quantity. The third kind appears red to the naked eye; and, when examined with glaſſes, is found to be a more tough and clammy white matter, in which a great number of globules of blood are interſperſed; theſe give it the red appearance it has.

CHALLENGE, a cartel or invitation to a duel or other combat *. A challenge either by word or letter, or to be the bearer of ſuch a challenge, is puniſhable by fine and impriſonment on indictment or information. * See *Duel*.

CHALLENGE, among hunters. When hounds or beagles, at firſt finding the ſcent of their game, preſently open and cry, they are ſaid to challenge.

CHALLENGE, in the law of England, is an exception made to jurors †; and is either in civil or criminal caſes. † See the article *Trial*.

I. In

Challenge. I. In *civil* eaſes challenges are of two ſorts; challenges to the *array*, and challenges to the *poll*.

1. Challenges to the array are at once an exception to the whole panel, in which the jury are arrayed, or ſet in order by the ſheriff in his return; and they may be made upon account of partiality or ſome default in the ſheriff or his under officer who arrayed the panel. Alſo, though there be no perſonal objection againſt the ſheriff, yet if he arrays the panel at the nomination, or under the direction of either party, this is good cauſe of challenge to the array. Formerly, if a lord of parliament had a cauſe to be tried, and no knight was returned upon the jury, it was a cauſe of challenge to the array: alſo by the policy of the ancient law, the jury was to come *de vicineto*, from the neighbourhood of the vill or place where the cauſe of action was laid in the declaration: and therefore ſome of the jury were obliged to be returned from the hundred in which ſuch vill lay; and, if none were returned, the array might be challenged from defect of hundreders. For, living in the neighbourhood, theſe were ſuppoſed to know beforehand the characters of the parties and witneſſes; and therefore they better knew what credit to give to the facts alleged in evidence. But this convenience was overbalanced by another very natural and almoſt unavoidable inconvenience; that jurors coming out of the immediate neighbourhood, would be apt to intermix their prejudices and partialities in the trial of right. And this the law was ſo ſenſible of, that it for a long time has been gradually relinquiſhing this practice; the number of neceſſary hundreders in the whole panel, which in the reign of Edward III. were conſtantly ſix, being in the time of Forteſcue reduced to four; afterwards by ſtatute 27 Eliz. c. 6. to two; and at length, by ſtatute 4 and 5 Anne, c. 16. it was entirely aboliſhed upon all civil actions, except upon penal ſtatutes; and upon thoſe alſo by the 24 Geo. II. c. 18. the jury being now only to come *de corpore comitatus*, from the body of the country at large, and not *de vicineto*, or from the particular neighbourhood. The array by the ancient law may alſo be challenged, if an alien be party to the ſuit, and, upon a rule obtained by his motion to the court for a jury *de medietate linguæ*, ſuch a one be not returned by the ſheriff purſuant to the ſtatute 28 Edward III. c. 13. enforced by 8 Hen. VI. c. 29. which enacts, that where either party is an alien born, the jury ſhall be one half denizens and the other aliens (if ſo many be forthcoming in the place), for the more impartial trial: A privilege indulged to ſtrangers in no other country in the world; but which is as ancient in England as the time of King Ethelred, in whoſe ſtatute *de monticolis Walliæ* (then aliens to the crown of England), c. 3. it is ordained, that "duodeni legales homines, quorum ſex Walli et ſex Angli ſint, Anglis et Wallis jus dicunto."

2. Challenges to the polls, *in capita*, are exceptions to particular jurors; and ſeem to anſwer the *recuſatio judicis* in the civil and canon laws; by the conſtitutions of which, a judge might be refuſed upon any ſuſpicion of partiality. By the laws of England alſo, in the times of Bracton and Fleta, a judge might be refuſed for good cauſe; but now the law is otherwiſe, and it is held that judges or juſtices cannot be challenged. For the law will not ſuppoſe a poſſibility of bias or favour in a judge who is already ſworn to adminiſter impartial juſtice, and whoſe authority greatly depends on that preſumption and idea. And, ſhould the fact at any time prove flagrantly ſuch, as the deficiency of the law will not preſume beforehand, there is no doubt but that ſuch miſbehaviour would draw down a heavy cenſure from thoſe to whom the judge is accountable for his conduct. But challenges to the polls of the jury (who are judges of fact) are reduced to four heads by Sir Edward Coke: *propter honoris reſpectum; propter defectum; propter affectum;* and *propter delictum*. 1. *Propter honoris reſpectum;* as, if a lord of parliament be impanelled on a jury, he may be challenged by either party, or he may challenge himſelf. 2. *Propter defectum;* as, if a juryman be an alien born, this is defect of birth; if he be a ſlave or bondman, this is defect of liberty, and he cannot be a *liber et legalis homo*. Under the word *homo* alſo, though a name common to both ſexes, the female is however excluded, *propter defectum ſexus:* except when a widow feigns herſelf with child in order to exclude the next heir, and a ſuppoſititious birth is ſuſpected to be intended; then, upon the writ *de ventre inſpiciendo*, a jury of women is to be impanelled to try the queſtion whether with child or not. But the principal deficiency is defect of eſtate ſufficient to qualify him to be a juror, which depends upon a variety of ſtatutes*. 3. Jurors may be challenged *propter affectum*, for ſuſpicion of bias or partiality. This may be either a principal challenge, or to the favour. A *principal* challenge is ſuch, where the cauſe aſſigned carries with it, *prima facie*, evident marks of ſuſpicion either of malice or favour: as, that a juror is of kin to either party within the ninth degree; that he has an intereſt in the cauſe; that there is an action depending between him and the party; that he has taken money for his verdict, &c. which, if true, cannot be overruled, for jurors muſt be *omne exceptione majores*. Challenges *to the favour*, are where the party hath no principal challenge; but objects only ſome probable circumſtances of ſuſpicion, as acquaintance, and the like; the validity of which muſt be left to the determination of *triors*, whoſe office is to decide whether the juror be favourable or unfavourable. 4. Challenges *propter delictum*, are for ſome crime or miſdemeanour that affects the juror's credit, and renders him infamous: As for a conviction of treaſon, felony, perjury, or conſpiracy; or if, for ſome infamous offence, he hath received judgment of the pilory or the like.

Challenge.

* See Blackſtone's Com. III. 362.

II. In *criminal* caſes, challenges may be made either on the part of the king, or on that of the priſoner; and either to the whole array, or to the ſeparate polls, for the very ſame reaſons that they may be in civil cauſes. For it is here at leaſt as neceſſary as there, that the ſheriff or returning officer be totally indifferent; that, where an alien is indicted, the jury ſhould be *de medietate*, or half foreigners, if ſo many are found in the place (which does not indeed hold in treaſons, aliens being very improper judges of the breach of allegiance; nor yet in the caſe of Egyptians under the ſtatute 22 Hen. VIII c. 10.); that on every pannel there ſhould be a competent number of hundreders; and that the particular jurors ſhould be *omni exceptione majores*, not liable to objections either *propter honoris reſpectum*,

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Challenge. Chall n

ſpectum, *propter defectum*, *propter affectum*, or *propter delictum*.

Challenges on any of the foregoing accounts are ſtyled challenges *for cauſe*; which may be without ſtint in both civil and criminal trials. But in criminal caſes, or at leaſt in capital ones, there is, *in favorem vitæ*, allowed to the priſoner an arbitrary and capricious ſpecies of challenge to a certain number of jurors, without ſhowing any cauſe at all; which is called a peremptory challenge: a proviſion full of that tenderneſs and humanity to priſoners for which our laws are juſtly famous. This is grounded on two reaſons: 1. As every one muſt be ſenſible what ſtrange impreſſions and unaccountable prejudices we are apt to conceive upon the bare looks and geſtures of another; and how neceſſary it is, that a priſoner, when put to defend his life, ſhould have a good opinion of his jury, the want of which might totally diſconcert him; the law wills not that he ſhould be tried by any one man againſt whom he has conceived a prejudice even without being able to aſſign a reaſon for ſuch his diſlike. 2. Becauſe upon challenges for cauſe ſhown, if the reaſon aſſigned prove inſufficient to ſet aſide the juror, perhaps the bare queſtioning his indifference may ſometimes provoke a reſentment; to prevent all ill conſequences from which, the priſoner is ſtill at liberty, if he pleaſes, peremptorily to ſet him aſide.

This privilege of peremptory challenges, though granted to the priſoner, is denied to the king by the ſtatute 33 Edward I ſtat. 4. which enacts, that the king ſhall challenge no jurors without aſſigning a cauſe certain to be tried and approved by the court. However, it is held that the king need not aſſign his cauſe of challenge till all the panel is gone through, and unleſs there cannot be a full jury without the perſons ſo challenged. And then, and not ſooner, the king's counſel muſt ſhow the cauſe: otherwiſe the juror ſhall be ſworn.

The peremptory challenges of the priſoner muſt, however, have ſome reaſonable boundary; otherwiſe he might never be tried. This reaſonable boundary is ſettled by the common law to the number of 35; that is, one under the number of three full juries. For the law judges, that 35 are fully ſufficient to allow the moſt timorous man to challenge through mere caprice; and that he who peremptorily challenges a greater number, or three full juries, has no intention to be tried at all. And therefore it deals with one who peremptorily challenges above 35, and will not retract his challenge, as with one who ſtands mute or refuſes his trial; by ſentencing him to the *peine forte et dure* in felony, and by attainting him in treaſon. And ſo the law ſtands at this day with regard to treaſon of any kind. But by ſtatute 22 Hen. VIII. c. 14. (which, with regard to felonies, ſtands unrepealed), no perſon arraigned for felony can be admitted to make more than 20 peremptory challenges.

CHALLON-SUR-SAONE, an ancient town of France, in Burgundy, and capital of the Challonnois, with a citadel and biſhop's ſee. It is ſeated on the river Saone, in E. Long. 5. 7. N. Lat. 46. 47.

Challons-Sur-Marne, a large epiſcopal town of France, in Champagne. It carries on a conſiderable trade in ſhalloons, and other woollen ſtuffs. It is ſeated between two fine meadows on the rivers Marne, Mau, and Nau, in E. Long. 4. 37. N. Lat. 48. 57. Chaloner.

CHALONER (Sir Thomas), a ſtateſman, ſoldier, and poet, deſcended from a good family in Denbigh in Wales, was born at London about the year 1515. Having been educated in both univerſities, but chiefly at Cambridge, he was introduced at the court of Henry VIII. who ſent him abroad in the retinue of Sir Henry Knevet ambaſſador to Charles V. and he had the honour to attend that monarch on his fatal expedition againſt Algiers in 1541. Soon after the fleet left that place, he was ſhipwrecked on the coaſt of Barbary in a very dark night: and having exhauſted his ſtrength by ſwimming, he chanced to ſtrike his head againſt a cable, which he had the preſence of mind to catch hold of with his teeth; and, with the loſs of ſeveral of them, was drawn up by it into the ſhip to which he belonged. Mr Chaloner returned ſoon after to England, and was appointed firſt clerk of the council, which office he held during the reſt of that reign. On the acceſſion of Edward VI. he became a favourite of the Duke of Somerſet, whom he attended to Scotland, and was knighted by that nobleman after the battle of Muſſelburgh, in 1547. The protector's fall put a ſtop to Sir Thomas Chaloner's expectations, and involved him in difficulties. During the reign of queen Mary, being a determined proteſtant, he was in ſome danger; but having many powerful friends, he had the good fortune to eſcape. On the acceſſion of queen Elizabeth, he appeared again at Court; and was ſo immediately diſtinguiſhed by her Majeſty, that ſhe appointed him ambaſſador to the emperor Ferdinand I. being the firſt ambaſſador ſhe nominated. His commiſſion was of great importance; and the queen was ſo well ſatisfied with his conduct, that, ſoon after his return, ſhe ſent him in the ſame capacity to Spain: but Sir Thomas was by no means ſatisfied with this inſtance of her majeſty's confidence: the courts of England and Spain being at this time extremely diſſatisfied with each other, he foreſaw that his ſituation would be very diſagreeable; and ſo it proved; but Elizabeth muſt be obeyed. He embarked for Spain in 1561, and returned to London in 1564, in conſequence of a requeſt to his ſovereign, in an elegy written in imitation of Ovid. After his return, he reſided in a houſe built by himſelf in Clerkenwell-cloſe, where he died in the year 1565, and was buried in St Paul's. Sir William Cecil aſſiſted as chief mourner at his funeral.

So various were the talents of Sir Thomas Chaloner, that he excelled in every thing to which he applied himſelf. He made a conſiderable figure as a poet. His poetical works were publiſhed by William Malim, maſter of St Paul's ſchool, in 1579. His capital work was that "Of reſtoring the Engliſh republic, in ten books," which he wrote when he was ambaſſador in Spain. It is remarkable, that this great man, who knew how to tranſact as well as write upon the moſt important affairs of ſtates and kingdoms, could deſcend to compoſe a *dictionary for children*, and to tranſlate from the Latin a book *Of the office of Servants*, merely for the utility of the ſubjects.

CHALONER (Sir Thomas) the younger, though inconſiderable as an author, deſerves to be recorded as a ſkilful naturaliſt, in an age wherein natural hiſtory was

Chaloner || Cham.

very little underſtood in this or any other country; and particularly as the founder of the alum-works in Yorkſhire, which have ſince proved ſo exceedingly advantageous to the commerce of this kingdom. He was the only ſon of Sir Thomas Chaloner mentioned in the laſt article, and was born in the year 1559. Being very young at the time of his father's death, the lord treaſurer Burleigh taking charge of his education, ſent him to St Paul's ſchool, and afterwards to Magdalen college in Oxford, where, like his father, he diſcovered extraordinary talents for Latin and Engliſh poetry. About the year 1580, he made the tour of Europe, and returned to England before 1584; for, in that year, we find him a frequent attendant in the court of queen Elizabeth. About this time he married the daughter of Sir William Fleetwood, recorder of London. In 1591 he was knighted; and, ſome time after, diſcovered the alum-mines on his eſtate at Giſborough, near the river Tees in Yorkſhire (A).

Towards the latter end of the queen's reign, Sir Thomas viſited Scotland; and returning to England in the retinue of king James I. found ſuch favour in the ſight of his majeſty, that he was immediately appointed governor to prince Henry, whom he conſtantly attended, and, when his royal pupil viſited Oxford, was honoured with the degree of maſter of arts. How he was employed after the death of the prince is not known. Some years before that event, he married a ſecond wife, the daughter of Mr William Blount of London, by whom he had ſome children. He died in the year 1615, and was buried at Chiſwick in Middleſex. His eldeſt ſon William was created a baronet in the 18th of James *anno* 1620. The title was extinct in 1681. He wrote, 1. Dedication to Lord Burleigh of his father's poetical works, dated 1579. 2. The virtue of nitre, wherein is declared the ſundry cures by the ſame effected. Lond. 1584, 4to.

CHALYBEAT, in medicine, an appellation given to any liquid, as wine or water, impregnated with particles of iron or ſteel. See MINERAL WATERS.

CHALYBES (anc. geog.), an ancient people of the Hither Aſia. Their ſituation is differently aſſigned; Strabo placing them in Paphlagonia, to the eaſt of Synope; Apollonius Rhodus and Stephanus, on the eaſt of the Thermodon, in Pontus; called *Halizones* by Homer. They either gave their name to, or took it from, their iron manufactures, (Xenophon, Val. Flaccus), their only ſupport, their ſoil being barren and ungrateful, (Dionyſius Periegetes).

CHAM, or KHAN, the title given to the ſovereign princes of Tartary.

The word, in the Perſian, ſignifies *mighty lord*; in the Sclavonic, *emperor*. Sperlingius, in his Diſſertation on the Daniſh term of *Majeſty*, *koning*, *king*, thinks the Tartarian *cham* may be well derived from it; adding, that in the north they ſay *kan*, *konnen*, *konge*, *koning*, &c. The term *cham* is alſo applied, among the Perſians, to the great lords of the court, and the governors of provinces.

Cham || Chamæropa.

CHAM, in geography, a town of the Bavarian palatinate, ſituated on a river of the ſame name, about 25 miles north-eaſt of Ratiſbon; E. Long. 13. N. Lat. 49. 15.

CHAMA, in zoology, a genus of ſhell-fiſh belonging to the order of vermes teſtaceæ. The ſhell is thick, and has two valves; it is an animal of the oyſter kind. Linnæus enumerates 14 ſpecies, principally diſtinguiſhed by the figure of their ſhells.

CHAMADE, in war, a certain beat of a drum, or ſound of a trumpet, which is given the enemy as a ſignal to inform them of ſome propoſition to be made to the commander, either to capitulate, to have leave to bury their dead, make a truce, or the like.—Menage derives the word from the Italian *chiamata*, of *clamare* to "cry."

CHAMÆDRYS, in botany. See VERONICA.

CHAMÆLEON, in zoology, the trivial name of a ſpecies of LACERTA.

CHAMÆPITYS, in botany. See TEUCRIUM.

CHAMÆROPS, in botany: A genus of the natural order of palmæ. The hermaphrodite calyx is tripartite; the corolla tripetalous; there are ſix ſtamina, three piſtils, and three monoſpermous plums. The male, in a diſtinct plant, the ſame as the hermaphrodite. There are two ſpecies, the moſt remarkable of which is the glabra, a native of the Weſt Indies, and warm parts of America, alſo of the correſponding latitudes of Aſia and Africa. It never riſes with a tall ſtem; but when the plants are old, their leaves are five or ſix feet long, and upwards of two feet broad; theſe ſpread open like a fan, having many foldings, and at the top are deeply divided like the fingers of a hand. This plant the Americans call *thatch*, from the uſe to which the leaves are applied.—Under the name of palmetto, however, Mr Adanſon deſcribes a ſpecies of palm which grows naturally at Senegal, whoſe trunk riſes from 50 to 60 feet in height: from the upper end of the trunk iſſues a bundle of leaves, which, in turning off, form a round head; each leaf repreſents a fan of five or ſix feet in expanſion, ſupported by a tail of the ſame length. Of theſe trees, ſome produce male flowers, which are conſequently barren; others are female, and loaded with fruit, which ſucceed each other uninterruptedly almoſt the whole year round. The fruit of the large palmettos, Mr Adanſon affirms to be of the bigneſs of an ordinary melon, but rounder: it is inveloped in two ſkins as tough as leather, and as thick as ſtrong parchment; within the fruit is yelloviſh, and full of filaments faſtened to three large kernels in the middle. The negroes are very fond of this fruit, which,

(A) Sir Thomas, during his reſidence in Italy, being particularly fond of natural hiſtory, ſpent ſome time at Puzzoli, where he was very attentive to the art of producing alum. This attention proved infinitely ſerviceable to his country, though of no great benefit to himſelf or his family, his attempt being attended with much difficulty and expence. It was begun about the year 1600, in the reign of queen Elizabeth; but was not brought to any degree of perfection till ſome time in the reign of Charles I. by the aſſiſtance of one Ruſſel a Walloon, and two other workmen brought from the alum works at Rochelle. By one of the arbitrary acts of Charles, it was then deemed a mine-royal, and granted to Sir Paul Pindar. The long parliament adjudged it a monopoly, and juſtly reſtored it to the original proprietors.

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Chamanim || Chamber

which, when baked under the aſhes, is ſaid to taſte like a quince.

The little palmetto may be eaſily raiſed in this country from ſeeds brought from America; but, as the plants are tender, they muſt be conſtantly kept in a bark-ſtove.

CHAMANIM, in the Jewiſh antiquities, is the Hebrew name for that which the Greeks call *Pyreia* or *Pyrateria*; and St Jerom in Leviticus has tranſlated *Simulachra*, io Iſaiah, *delubra*. Theſe chamanim were, according to Rabbi Solomon, idols expoſed to the ſun upon the tops of houſes. Abenezoa ſays they were portable chapels or temples made in the form of chariots, in honour of the ſun. What the Greeks call Pyreia, were temples conſecrated to the ſun and fire, wherein a perpetual fire was kept up. They were built upon eminences; and were large incloſures without covering, where the ſun was worſhipped. The Guebres, or worſhippers of fire, in Perſia and the Eaſt Indies, have ſtill theſe Pyreia. The word *chamanim* is derived from *Chaman*, which ſignifies to warm, or burn.

CHAMARIM, a word which occurs in ſeveral places of the Hebrew bible, and is generally tranſlated the *prieſts of the idols*, or the *prieſts clothed in black*, becauſe *chamar* ſignifies "black," or "blackneſs." St Jerom, in the ſecond book of Kings, renders it *aruſpices*. In Hoſea and Zephania, he tranſlates it *aditui* or church-wardens. But the beſt commentators are of opinion, that by this word we are to underſtand the prieſts of the falſe gods, and in particular the worſhippers of fire; becauſe they were, as they ſay, dreſſed in black; or perhaps the Hebrews gave them this name in deriſion, becauſe, as they were continually employed in taking care about the fuel, and keeping up the fire, they were always as black as ſmiths or colliers. We find prieſts, among thoſe of Iſis, called *melancphori*, that is to ſay, that wear black; but whether this may be by reaſon of their dreſſing in black, or whether it were becauſe they wore a certain ſhining black veil in the proceſſions of this goddeſs, is not certain. *Camar*, in Arabic, ſignifies the "mooo." Iſis is the ſame deity. Grotius thinks the Roman prieſts, called *camilli*, came from the Hebrew *chamarim*. Thoſe among the heathens who ſacrificed to the infernal gods were dreſſed in black.

CHAMBER, in building, a member of a lodging, or piece of an apartment, ordinarily intended for ſleeping in; and called by the Latins *cubiculum*. The word comes from the Latin *camera*; and that, according to *Nicod*, from the Greek καμαρα, *vault* or *curve*; the term *chamber* being originally confined to places arched over.

A complete apartment is to conſiſt of a hall, antichamber, *chamber*, and cabinet.

Privy-Chamber. Gentlemen of the privy-chamber, are ſervants of the king, who are to wait and attend on him and the queen at court, in their diverſions, &c. Their number is forty-eight, under the lord-chamberlain, twelve of whom are in quarterly waiting, and two of theſe lie in the privy-chamber.

In the abſence of the lord-chamberlain, or vice-chamberlain, they execute the king's orders: at coronations, two of them perſonate the dukes of Aquitain and Normandy; and ſix of them, appointed by the lord-chamberlain, attend ambaſſadors from crowned heads to their audiences, and in public entries. The gentlemen of the privy-chamber were inſtituted by Henry VII. Chamber.

CHAMBER, in policy, the place where certain aſſemblies are held, alſo the aſſemblies themſelves. Of theſe ſome are eſtabliſhed for the adminiſtration of juſtice, others for commercial affairs.

Of the firſt kind are, 1. Star-chamber, ſo called, becauſe the roof was painted with ſtars; the authority, power, and juriſdiction of which, are abſolutely aboliſhed by the ſtatute 17 Car. I. 2. Imperial chamber of Spire, the ſupreme court of judicatory in the empire, erected by Maximilian I. This chamber has a right of judging by appeal; and is the laſt reſort of all civil affairs of the ſtates and ſubjects of the empire, in the ſame manner as the aulic council of Vienna. Nevertheleſs it is reſtrained in ſeveral caſes: it takes no notice of matrimonial cauſes, theſe being left to the pope; nor of criminal cauſes, which either belong to particular princes or towns in their reſpective territories, or are cognizable by all the ſtates of the empire in a diet. By the treaty of Oſnaburg, in 1648, fifty aſſeſſors were appointed for this chamber, whereof 24 were to be Proteſtants, and 26 Catholics; beſides five preſidents, two of them Proteſtants, and the reſt Catholics. 3. Chamber accounts, a ſovereign court in France, where accounts are rendered of all the king's revenues, inventories, and avowals thereof regiſtered; oaths of fidelity taken, and other things relating to the finances tranſacted. There are nine in France, that of Paris is the chief; it regiſters proclamations, treaties of peace, naturalizations, titles of nobility, &c. All the members wear long black gowns of velvet, of ſattin, or damaſk, according to their places. 4. Eccleſiaſtical chambers in France, which judge by appeal of differences about collection the tythes. 5. Chamber of audience, or grand chamber, a juriſdiction in each parliament of France, the counſellors of which are called *jugeurs*, or judges, as thoſe of the chamber of inqueſts are called *raporteurs*, reporters of proceſſes by writing. 6. Chamber of the edict, or miparty, a court eſtabliſhed by virtue of the edict of pacification in favour of thoſe of the reformed religion. This chamber is now ſuppreſſed. 7. Apoſtolical chamber of Rome, that wherein affairs relating to the revenues of the church and the pope are tranſacted. This council conſiſts of the cardinal-camerlingo, the governor of the rota, a treaſurer, an auditor, a preſident, one advocate-general, a ſolicitor-general, a commiſſary, and 12 clerks. 8. Chamber of London, an apartment in Guildhall, where the city money is depoſited.

Of the laſt ſort are, the chambers of commerce; the chambers of aſſurance; and the royal or ſyndical chamber of bookſellers in France.

1. The chamber of commerce is an aſſembly of merchants and traders, where the affairs relating to trade are treated of. There are ſeveral eſtabliſhed in moſt of the chief cities of France; and in our own country, we have lately ſeen chambers of this kind erected, particularly in London, Edinburgh, and Glaſgow. 2. Chamber of aſſurance in France, denotes a ſociety of merchants and others for carrying on the buſineſs of inſuring: but in Holland, it ſignifies a court of juſtice, where cauſes relating to inſurances are tried.

Chamber, Chamberlain.

3. Chamber of bookſellers in Paris, an aſſembly conſiſting of a ſyndic and aſſiſtants, elected by four delegates from the printers, and twelve from the bookſellers, to viſit the books imported from abroad, and to ſearch the houſes of ſellers of marbled paper, printſellers, and dealers in printed paper for hangings, who are prohibited from keeping any letters proper for printing-books. In the viſitation of books, which ought to be performed by three perſons at leaſt from among the ſyndic and aſſiſtants, all libels againſt the honour of God and the welfare of the ſtate, and all books printed either within or without the kingdom in breach of their regulations and privileges, are ſtopt, even with the merchandiſes that may happen to be in the bales with ſuch libels or other prohibited books. The days appointed for this chamber to meet, are Tueſdays and Fridays, at two o'clock in the afternoon.

CHAMBER, in military affairs. 1. Powder-chamber, or bomb-chamber; a place ſunk under ground for holding the powder, or bombs, where they may be out of danger, and ſecured from the rain. 2. Chamber of a mine; the place, moſt commonly of a cubical form, where the powder is confined. 3. Chamber of a mortar; that part of the chaſe, much narrower than the reſt of the cylinder, where the powder lies. It is of different forms; ſometimes like a reverſed cone; ſometimes globular, with a neck for its communication with the cylinder, whence it is called a bottled chamber; but moſt commonly cylindrical, that being the form which is found by experience to carry the ball to the greateſt diſtance.

CHAMBERLAIN, an officer charged with the management and direction of a chamber. See CHAMBER, *in policy*.

There are almoſt as many kinds of chamberlains as chambers, the principal whereof are as follows.

Lord CHAMBERLAIN of Great Britain, the ſixth great officer of the crown; to whom belongs livery and lodging in the king's court; and there are certain fees due to him from each archbiſhop or biſhop when they perform their homage to the king, and from all peers at their creation or doing their homage. At the coronation of every king, he is to have forty ells of crimſon velvet for his own robes. This officer, on the coronation-day, is to bring the king his ſhirt, coif, and wearing clothes; and after the king is dreſſed, he claims his bed, and all the furniture of his chamber, for his fees: he alſo carries, at the coronation, the coif, gloves, and linen, to be uſed by the king on that occaſion; alſo the ſword and ſcabbard, the gold to be offered by the king, and the robes-royal and crown: he dreſſes and undreſſes the king on that day, waits on him before and after dinner, &c. To this officer belongs the care of providing all things in the houſe of lords, in the time of parliament; to him alſo belongs the government of the palace of Weſtminſter: he diſpoſes likewiſe of the ſword of ſtate, to be carried before the king, to what lord he pleaſes.

The great chamberlain of Scotland was ranked by King Malcolm as the third great officer of the crown, and was called *Camerarius Domini Regis*. Before there was a treaſurer appointed, it was his duty to collect the revenue of the crown, and he diſburſed the money neceſſary for the king's expences, and the maintenance of the king's houſehold. From the time that a treaſurer was appointed, his province was limited to the boroughs throughout the kingdom, where he was a ſort of juſtice-general, as he had a power for judging of all crimes committed within the borough, and of the crime of foreſtalling. He was to hold chamberlain-ayres every year. He was ſupreme judge; nor could any of his decrees be queſtioned by any inferior judicatory. His ſentences were put in execution by the magiſtrates of the boroughs. He alſo regulated the prices of proviſions within the borough, and the fees of the workmen in the mint-houſe. His ſalary was only L. 200 a-year. The ſmallneſs of his ſalary, and his great powers, had no doubt been the cauſes of much oppreſſion in this officer, and the chamberlain-ayre was called rather a legal robbery than a court of juſtice; and when the combined lords ſeized king James VI. Auguſt 24, 1582, and carried him to Ruthven Caſtle, they iſſued a proclamation in the king's name, diſcharging the chamberlain-ayres to be kept. The chamberlain had great fees ariſing from the profits of eſcheats, fines, tolls, and cuſtoms. This office was granted heritably to the family of Stuart, duke of Lenox; and when their male line failed, king Charles II. conferred it in like manner upon his natural ſon, whom he created duke of Monmouth, and on his forfeiture it went to the duke of Lenox; but that family ſurrendered the office to the crown in 1703.

Chamberlain, Chamberlayne.

Lord CHAMBERLAIN of the Houſhold, an officer who has the overſight and direction of all officers belonging to the king's chambers, except the precinct of the king's bed-chamber.

He has the overſight of the officers of the wardrobe at all his majeſty's houſes, and of the removing wardrobes, or of beds, tents, revels, muſic, comedians, hunting, meſſengers, &c. retained in the king's ſervice. He moreover has the overſight and direction of the ſerjeants at arms, of all phyſicians, apothecaries, ſurgeons, barbers, the king's chaplains, &c. and adminiſters the oath to all officers above ſtairs.

Other chamberlains are thoſe of the king's court of exchequer, of North Wales, of Cheſter, of the city of London, &c. in which caſes this officer is generally the receiver of all rents and revenues belonging to the place whereof he is chamberlain.

In the exchequer there are two chamberlains, who keep a controlment of the pells of receipts and exitus, and have certain keys of the treaſury, records, &c.

CHAMBERLAIN of London keeps the city money, which is laid up in the chamber of London: he alſo preſides over the affairs of maſters and apprentices, and makes free of the city, &c.

His office laſts only a year; but the cuſtom uſually obtains to re-chuſe the ſame perſon, unleſs charged with any miſdemeanor in his office.

CHAMBERLAYNE (Edward), deſcended from an ancient family, was born in Glouceſterſhire 1616, and made the tour of Europe during the diſtractions of the civil war. After the reſtoration, he went as ſecretary with the earl of Carliſle, who carried the order of the Garter to the king of Sweden; was appointed tutor to the duke of Graſton, natural ſon of Charles II. and was afterwards pitched on to inſtruct prince George of Denark in the Engliſh tongue. He died in 1703, and was buried in a vault in Chelſea

4 church-

Chamberlayne || Chambers.

church-yard: his monumental inſcription mentions ſix books of his writing; and that he was deſirous of doing ſervice to poſterity, that he ordered ſome copies of his books to be covered with wax, and buried with him. That work by which he is beſt known, is his *Anglie Notitia*, or *the preſent ſtate of England*, which has been often ſince printed.

CHAMBERLAYNE (John), ſon to the authors of *The Preſent State of England*," and continuator of that uſeful work, was admitted into Trinity College, Oxford, 1685; but it doth not appear that he took any degree. Beſide the *Continuation* juſt mentioned, he was author of "Diſſertations hiſtorical, critical, theological, and moral, on the moſt memorable events of the Old and New Teſtaments, with Chronological Tables;" one vol. folio; and tranſlated a variety of works from the French, Dutch, and other languages. He likewiſe was F. R. S. and communicated ſome pieces, inſerted in the Philoſophical Tranſactions. It was ſaid of him that he underſtood ſixteen languages; but it is certain that he was maſter of the Greek, Latin, French, High and Low Dutch, Portugueſe, and Italian. Though he was qualified for employment, he had none but that of Gentleman-Uſher to George Prince of Denmark. After a uſeful and well-ſpent life, he died in the year 1724. He was a very pious and good man, and earneſt in promoting the advancement of religion, and the intereſt of true Chriſtianity; for which purpoſe he kept a large correſpondence abroad.

CHAMBERRY, a conſiderable and populous town of Italy, in Savoy, with a caſtle. It is capital of the duchy, and well built, but has no fortifications. It is watered by ſeveral ſtreams, which have their ſources in St Martin's-hill, and run through ſeveral of the ſtreets. There are piazzas under moſt part of the houſes, where people may walk dry in the worſt weather. It hath large and handſome ſuburbs; and in the centre of the town is the royal palace. The parliament meet here, which is compoſed of four preſidents, and a pretty large number of ſenators, being the ſupreme tribunal of the whole duchy. The principal church is St Leger, and the Jeſuits college is the moſt magnificent of all the monaſteries. E. Long. 5. 50. N. Lat. 45. 35.

CHAMBERS (David), a Scots hiſtorian, prieſt, and lawyer, was born in the ſhire of Roſs, about the year 1530, and educated in the univerſity of Aberdeen. From thence he went to France and Italy, where he continued ſome time, particularly at Boulogne, where, in 1556, he was a pupil of Marianus Sozenus.

After his return to Scotland, he was appointed, by queen Mary, parſon of Suddy and chancellor of Roſs. He was ſoon after employed in digeſting the laws of Scotland, and was principally concerned in publiſhing the acts of parliament of that kingdom by authority in 1566. He was alſo appointed one of the lords of ſeſſion, and continued her majeſty's faithful ſervant till her declining fortune obliged her adherents to ſeek for refuge in other kingdoms. Chambers went firſt to Spain, where he was graciouſly received by king Philip; and thence he travelled to Paris, where he was no leſs kindly received by Charles IX. of that kingdom, to whom, in 1572, he preſented his hiſtory of Scotland, *&c.* He died at Paris in the year 1592, much regretted (ſays Mackenzie) by all who knew him. His writings were chiefly calculated to aſſiſt his royal miſtreſs, and to extol the wiſdom of the Scots nation. Chambers.

CHAMBERS (Ephraim), author of the ſcientific Dictionary which goes under his name, was born at Milton, in the county of Weſtmoreland. His parents were diſſenters of the Preſbyterian perſuaſion; and his education no other than that common one which is intended to qualify a youth for trade and commerce. When he became of a proper age, he was put apprentice to Mr Senex the globe-maker, a buſineſs which is connected with literature, and eſpecially with aſtronomy and geography. It was during Mr Chambers's reſidence with this ſkilful mechanic, that he contracted that taſte for ſcience and learning which accompanied him through life, and directed all his purſuits. It was even at this time that he formed the deſign of his grand work, the "Cyelopædia;" and ſome of the firſt articles of it were written behind the counter. Having conceived the idea of ſo great an undertaking, he juſtly concluded that the execution of it would not conſiſt with the avocations of trade; and therefore he quitted Mr Senex, and took chambers at Gray's-Inn, where he chiefly reſided during the reſt of his days. The firſt edition of the *Cyclopædia*, which was the reſult of many years intenſe application, appeared in 1728, in two vols. fol. It was publiſhed by ſubſcription, the price being 4l. 4 s. and the liſt of ſubſcribers was very reſpectable. The dedication, which was to the king, is dated October 15. 1727. The reputation that Mr Chambers acquired by his execution of this undertaking, procured him the honour of being elected F. R. S. Nov. 6. 1729. In leſs than ten years time, a ſecond edition became neceſſary; which accordingly was printed, with corrections and additions, in 1738; and was followed by a third the very next year.

Although the Cyelopædia was the grand buſineſs of Mr Chambers's life, and may be regarded as almoſt the ſole foundation of his fame, his attention was not wholly confined to this undertaking. He was concerned in a periodical publication, intituled, "The Literary Magazine," which was begun in 1735. In this work he wrote a variety of articles, and particularly a review of Morgan's "Moral Philoſopher." He was engaged, likewiſe, in conjunction with Mr John Martyn, F. R. S. and profeſſor of botany at Cambridge, in preparing for the preſs a tranſlation and abridgment of the "Philoſophical Hiſtory and Memoirs of the Royal Academy of Sciences at Paris, or an Abridgment of all the Papers relating to Natural Philoſophy which have been publiſhed by the Members of that illuſtrious Society." This undertaking, when completed, was compriſed in five volumes 8vo, which did not appear till 1742, ſome time after our author's deceaſe, when they were publiſhed in the joint names of Mr Martyn and Mr Chambers. Mr Martyn, in a ſubſequent publication, hath paſſed a ſevere cenſure, upon the ſhare which his fellow-labourer had in the abridgment of the Pariſian papers. The only work beſides, that we find aſcribed to Mr Chambers, is a tranſlation of the *Jeſuit's Perſpective*, from the French; which was printed in 4to, and hath gone through ſeveral editions. Mr Chambers's cloſe and unremitting attention to his ſtudies at length impaired his

Chambers
Chamos.

health, and obliged him occaſionally to take a lodging at Canonbury-houſe, Iſlington. This not having greatly contributed to his recovery, he made an excurſion to the ſouth of France, but did not reap that benefit from it which he had himſelf hoped, and his friends wiſhed. Returning to England, he died at Canonbury-houſe, and was buried at Weſtminſter; where the following inſcription, written by himſelf, is placed on the north ſide of the cloyſters of the Abbey:

Multis pervulgatus,
Paucis notus;
Qui vitam, inter lucem & umbram,
Nec eruditus, nec idiota,
Literis deditus, tranſegit; ſed ut homo
Qui humani nihil a ſe alienum putat.
Vita ſimul, & laboribus functus,
Hic requieſcere voluit,
Ephraim Chambras, R. S. S.
Obiit xv Maii, MDCCXL.

After the author's death, two more editions of his Cyclopædia were publiſhed. The proprietors afterwards procured a ſupplement to be compiled, which extended to two volumes more: And in the year 1778 began to be publiſhed in weekly numbers, an edition of both, improved, and incorporated into one alphabet, by Dr Rees, which has been lately completed in four volumes folio, and forms a very valuable work.

CHAMBRE (Martin Cureau de la), phyſician in ordinary to the French king, was diſtinguiſhed by his knowledge in medicine, philoſophy, and polite learning. He was born at Mons; and was received into the French academy in 1635, and afterwards into the academy of ſciences. He wrote a great number of works, the principal of which are, 1. The characters of the paſſions. 2. The art of knowing men. 3. On the knowledge of beaſts, &c. He died at Paris in 1669.

CHAMELEON. See Lacerta.

CHAMFERING, in architecture, a phraſe uſed for cutting any thing aſlope on the under ſide.

CHAMIER (Daniel), an eminent proteſtant divine, born in Dauphine. He was many years preacher at Montellimart; from whence he went in 1612 to Montaubon, to be profeſſor of divinity in that city, and was killed by a cannon-ball during the ſiege in 1621. The moſt conſiderable of his works is his *Panſtratia Catholica*, or "Wars of the Lord," in four volumes folio; in which he treats very learnedly of the controverſies between the Proteſtants and Roman Catholics.

CHAMOIS, or Chamois-goat, in zoology. See Capra.

CHAMOMILE. See Anthemis.

CHAMOS, or Chemosh, the idol or god of the Moabites.

The name of *chamos* comes from a root which, in Arabic, ſignifies to *make haſte*; for which reaſon many believe chamos to be the ſun, whoſe precipitate courſe might well procure it the name of ſwift or ſpeedy. Others have confounded chamos with the god *Hammon*, adored not only in Libya and Egypt, but alſo in Arabia, Ethiopia, and the Indies. Macrobius ſhows that Hammon was the ſun; and the horns, with which he was repreſented, denoted his rays. Calmet is of opinion, that the god Hamonus, and Apollo Chomeus, mentioned by Strabo and Ammianus Marcellinus, was the very ſame as chamos or the ſun. Theſe deities were worſhipped in many of the eaſtern provinces. Some who go upon the reſemblance of the Hebrew term *chamos*, to that of the Greek *comos*, have believed chamos to ſignify the god Bacchus the god of drunkenneſs, according to the ſignification of the Greek *comos*. St Jerom, and with him moſt other interpreters, take Chamos and Peor for the ſame deity. But it ſeems that Baal-Peor was the ſame as Tammuz or Adonis; ſo that Chamos muſt be the god whom the heathens call the Sun. Chamouni

CHAMOUNI, one of the elevated valleys of the Alps, ſituated at the foot of Mount Blanc. See Alps and Blanc.

The firſt ſtrangers whom a curioſity to viſit the glaciers drew to Chamouni (M. Saſſure obſerves), certainly conſidered this valley as a den of robbers; for they came armed cap-a-pee, attended with a troop of domeſtics armed in the ſame manner: they would not venture into any houſe; they lived in tents which they had brought along with them; fires were kept burning, and centinels on guard the whole night over. It was in the year 1741 that the celebrated traveller Pocock, and another Engliſh gentleman called Wyndham, undertook this intereſting journey. It is remembered by the old men of Chamouni, and they ſtill laugh at the fears of the travellers, and at their unneceſſary precautions. For 20 or 25 years after this period, the journey was made but ſeldom, and then chiefly by Engliſhmen, who lodged with the curate: for, when I was there in 1760, and even for four or five years afterwards, there was no habitable houſe except one or two miſerable inns, like thoſe in villages that are little frequented. But now that this expedition has gradually become ſo faſhionable, three large and good inns, which have been ſucceſſively built, are hardly ſufficient to contain the travellers that come during the ſummer from all quarters.

This concourſe of ſtrangers, and the money they leave behind them at Chamouni, have ſomewhat affected the ancient ſimplicity of the inhabitants, and even the purity of their manners. Nobody, however, has any thing to fear from them: the moſt inviolable fidelity is obſerved with reſpect to travellers; they are only expoſed to a few importunate ſolicitations, and ſome ſmall artifices, dictated by the extreme eagerneſs with which the inhabitants offer their ſervices as guides.

The hope of obtaining this employment brings together, round a traveller, almoſt all the men in every village through which he paſſes, and makes him believe that there are a great many in the valley; but there are very few at Chamouni in ſummer. Curioſity, or the hope of making money, draws many to Paris and into Germany: beſides, as the ſhepherds of Chamouni have the reputation of excelling in the making of cheeſe, they are in great requeſt in the Tarentaiſe, in the valley of Anſte, and even at greater diſtances; and they receive there, for four or five months in ſummer, very conſiderable wages. Thus the labours of the field devolve almoſt entirely on the women, even ſuch as in other countries fall ſolely on the men; as mowing, cutting of wood, and threſhing: even the animals of the ſame ſex are not ſpared, for the cows there are yoked in the plough.

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Chamouni. The only labours that belong exclusively to the men are the seeking for rock crystal, and the chace. Happily they are now less employed than formerly in the first of these occupations. I say happily, for many of them perished in this pursuit. The hope of enriching themselves quickly by the discovery of a cavern filled with fine crystals, was so powerful a motive, that they exposed themselves in the search to the most alarming dangers; and hardly a year passed without some of them perishing in the snows, or among the precipices.

The principal indication of the grottos, or crystal ovens, as they are here called, are veins of quartz, which appear on the outside of the rocks of granite, or of the laminated rock. These white veins are seen at a distance, and often at great heights, on vertical and inaccessible places. The adventurers endeavour to arrive at these, either by fabricating a road across the rocks, or by letting themselves down from above suspended by ropes. When they reach the place, they gently strike the rock; and if the stone returns a hollow sound, they endeavour to open it with a hammer, or to blow it up with powder. This is the principal method of searching: but young people, and even children, often go in quest of these crystals over the glaciers, where the rocks have lately fallen down. But whether they consider these mountains as nearly exhausted, or that the quantity of crystal found at Madagascar has too much lowered the price of this fossil, there are now but few people that go in search of it, and perhaps there is not a single person at Chamouni that makes it his only occupation. They go however occasionally, as to a party of pleasure.

But the chace of the Chamois goat, as dangerous, and perhaps more so than the seeking for crystal, still occupies many inhabitants of the mountains, and carries off, in the flower of their age, many men whose lives are most valuable to their families. And when we are informed how this chace is carried on, we will be astonished that a course of life, at once so laborious and perilous, should have irresistible attractions for those who have been accustomed to it.

The Chamois hunter generally sets out in the night, that he may reach by break of day the most elevated pastures where the goats come to feed, before they arrive. As soon as he discovers the place where he hopes to find them, he surveys it with his glass. If he finds none of them there, he proceeds always ascending: whenever he descries any, he endeavours to get above them, either by stealing along some gully, or getting behind some rock or eminence. When he is near enough to distinguish their horns, which is the mark by which he judges of the distance, he rests his piece on a rock, takes his aim with great composure, and rarely misses. This piece is a rifle-barrelled carabine, into which the ball is thrust, and these carabines often contain two charges, though they have but one barrel; the charges are put one above another, and are fired in succession. If he has wounded the chamois, he runs to his prey, and for security he hamstrings it; then he considers his way home: if the road is difficult, he skins the chamois, and leaves the carcase; but, if it is practicable, he throws the animal on his shoulders, and bears him to his village, though at a great distance, and often over frightful precipices: he feeds his family with the flesh, which is excellent, especially when the creature is young, and he dries the skins for Chamouni. sale.

But if, as is the most common case, the vigilant chamois perceives the approach of the hunter, he immediately takes flight among the glaciers, through the snows, and over the most precipitous rocks. It is particularly difficult to get near these animals when there are several together; for then one of them, while the rest are feeding, stands as a centinel on the point of some rock that commands a view of the avenues leading to the pasture; and as soon as he perceives any object of alarm, he utters a sort of hiss, at which the others instantly gather round him to judge for themselves of the nature of the danger: if it is a wild beast, or a hunter, the most experienced puts himself at the head of the flock; and away they fly, ranged in a line, to the most inaccessible retreats.

It is here that the fatigues of the hunter begin: instigated by his passion for the chace, he is insensible to danger; he passes over snows, without thinking of the horrid precipices they conceal; he intangles himself among the most dangerous paths, and bounds from rock to rock, without knowing how he is to return. Night often surprises him in the midst of his pursuit; but he does not for that reason abandon it; he hopes that the same cause will arrest the flight of the chamois, and that he will next morning overtake them. Thus he passes the night, not at the foot of a tree, like the hunter of the plain; not in a grotto, softly reclined on a bed of moss, but at the foot of a rock, and often on the bare points of shattered fragments, without the smallest shelter. There, all alone, without fire, without light, he draws from his bag a bit of cheese, with a morsel of oaten bread, which make his common food: bread so dry, that he is sometimes obliged to break it between two stones, or with the hatchet he carries with him to cut out steps in the ice. Having thus made his solitary and frugal repast, he puts a stone below his head for a pillow, and goes to sleep, dreaming on the rout which the chamois may have taken. But soon he is awakened by the freshness of the morning; he gets up, benumbed with cold; surveys the precipices which he must traverse in order to overtake his game; drinks a little brandy, of which he is always provided with a small portion, and sets out to encounter new dangers. Hunters sometimes remain in these solitudes for several days together, during which time their families, their unhappy wives in particular, experience a state of the most dreadful anxiety: they dare not go to rest for fear of seeing their husbands appear to them in a dream; for it is a received opinion in the country, that when a man has perished, either in the snow, or on some unknown rock, he appears by night to the person he held most dear, describes the place that proved fatal to him, and requests the performance of the last duties to his corpse.

"After this picture of the life which the chamois hunters lead, could one imagine that this chace would be the object of a passion absolutely unsurmountable? I knew a well-made, handsome man, who had just married a beautiful woman:—'My grandfather, said he to me, lost his life in the chace; so did my father; and I am persuaded, that I too shall die in the same manner: this bag which I carry with me when I hunt I call my grave-cloaths, for I am sure I will: *Voyages dans les Alpes, par M. Saussure, tom. iii.*

Chamouni. will have no other; yet if you ſhould offer to make my fortune on condition of abandoning the chace of the chamois, I could not conſent. I made ſome excurſions on the Alps with this man: his ſtrength and addreſs were aſtoniſhing; but his temerity was greater than his ſtrength; and I have heard, that, two years afterwards, he miſſed a ſtep on the brink of a precipice, and met with the fate he had expected.

"The few who have grown old in this employment bear upon their faces the marks of the life they have led. A ſavage look, ſomething in it haggard and wild, makes them be known in the midſt of a crowd, even when they are not in their hunting dreſs. And undoubtedly it is this ill look which makes ſome ſuperſtitious peaſants believe that they are ſorcerers, that they have dealings with the devil in their ſolitudes, and that it is he who throws them down the rocks. What then can be the paſſionate inducement to this courſe of life? It is not avarice, at leaſt it is not an avarice conſiſtent with reaſon: the moſt beautiful chamois is never worth more to the perſon that kills it than a dozen of francs, even including the value of its fleſh; and now that the number is ſo much diminiſhed, the time loſt before one can be taken is much more than its value. But it is the very dangers that attend the purſuit, thoſe alternations of hope and fear, the continual agitation and exercise which theſe emotions produce in the mind, that inſtigate the hunter: they animate him as they do the gameſter, the warrior, the ſailor, and even to a certain degree, the naturaliſt of the Alps: whoſe life, in ſome meaſure, pretty much reſembles that of the hunter whoſe manners we have deſcribed."

But there is another kind of hunting, which is neither dangerous nor laborious, nor fatal to any one but to the poor animals that are the objects of it.—Theſe are the marmots, animals that inhabit the high mountains; where in ſummer they ſcoop out holes, which they line with hay, and retire to at the beginning of autumn: here they grow torpid with the cold, and remain in a ſort of lethargy, till the warmth of the ſpring returns to quicken their languid blood, and to recal them to life. When it is ſuppoſed that they have retired to their winter abode, and before the ſnow has covered the high paſtures where their holes are made, people go to unharbour them. They are found from 10 to 12 in the ſame hole, heaped upon one another, and buried in the hay. Their ſleep is ſo profound, that the hunter often puts them into his bag, and carries them home without their awaking. The fleſh of the young is good, though it taſtes of oil, and ſmells ſomewhat of muſk; the fat is uſed in the cure of rheumatiſms and pains, being rubbed on the parts affected; but the ſkin is of little value, and is ſold for no more than five or ſix ſols. Notwithſtanding the little benefit they reap from it, the people of Chamouni go in queſt of this animal with great eagerneſs, and its numbers accordingly diminiſh very ſenſibly.

It has been ſaid, that marmots, in order to tranſport the hay into their holes, uſe one of their number laid on his back as a cart; but this is fabulous, for they are ſeen carrying the hay in their mouths. Nor is it for food that they gather it, but for a bed, and in order to ſhut out the cold, and to guard the avenues of their retreat from enemies. When they are taken in autumn, Chamouni. their bowels are quite empty, and even as clean as if they had been waſhed with water; which proves that their torpidity is preceeded by a faſt, and even by an evacuation: a wiſe contrivance of Nature for preventing their accumulated faeces from growing putrid, or too dry, in the long lethargy they are expoſed to. They alſo continue a few days after their revival without eating, probably to allow the circulation and digeſtive power to recover their activity. At firſt, leaving their holes, they appear ſtupid and dazzled with the light: they are at this time killed with ſticks, as they do not endeavour to fly, and their bowels are then alſo quite empty. They are not very lean when they awake, but grow more ſo for a few days after they firſt come abroad. Their blood is never congealed, however profound their ſleep may be; for at the time that it is deepeſt, if they are hled, the blood flows as if they were awake.

In theſe countries the period is ſo ſhort between the diſſolution of the ſnow and its return, that grain has hardly time to come to maturity. Mr Saſſure mentions a very uſeful and ingenious practice, invented by mountaineers of the Argentiere, for enlarging this period. "I obſerved (ſays he), in the middle of the valley, ſeveral large ſpaces where the ſurface of the ſnow exhibited a ſingular appearance, ſomewhat reſembling a piece of white cloth ſpotted with black. While I was endeavouring to divine the cauſe of this phenomenon, I diſcovered ſeveral women walking with meaſured pace, and ſowing ſomething in handfuls that was black; and which being ſcattered, regularly diverging, on the ſurface of the ſnow, formed that ſpotted appearance that I had been admiring. I could not conceive what ſeed ſhould be ſown on ſnow ſix feet deep; but my guide, aſtoniſhed at my ignorance, informed me, that it was black earth ſpread upon the ſnow to accelerate its melting; and thus to anticipate, by a fortnight or three weeks, the time of labouring the fields and ſowing. I was ſtruck with the elegant ſimplicity of a practice ſo uſeful, the effects of which I already ſaw very evidently in places which had not been thus treated above three days.

"As to the inhabitants of Chamouni, the men, like thoſe of moſt high valleys, are neither well-made nor tall: but they are nervous and ſtrong, as are alſo the women. They do not attain to a great age; men of 80 are very rare. Inflammatory diſeaſes are the moſt fatal to them; proceeding, no doubt, from obſtructed perſpiration, to which the inconſtant temperature of the climate expoſes them.

"They are in general honeſt, faithful, and diligent in the practice of religious duties. It would, for inſtance, be in vain to perſuade them to go any where on a holiday before hearing maſs. They are economical, but charitable. There are among them neither hoſpitals nor foundations for the poor; but orphans and old people, who have no means of ſubſiſtence, are entertained by every inhabitant of a pariſh in his turn. If a man is prevented by age or infirmities from taking charge of his affairs, his neighbours join among themſelves and do it for him.

"Their mind is active and lively, their temper gay, with an inclination to raillery: they obſerve, with ſingular acuteneſs, the ridiculous in ſtrangers, and turn

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Champagne ‖ Champion.

it into a fund of very facetious merriment among themſelves; yet they are capable of ſerious thinking: many of them have attacked me on religious and metaphyſical ſubjects; not as profeſſing a different faith from theirs, but on general queſtions, which ſhowed they had ideas independent of thoſe they were taught."

CHAMPAGNE, a conſiderable province of France, about 162 miles in length, and 112 in breadth, bounded on the north by Hainhalt and Luxemburg, on the eaſt by Lorrain and the Franche-Comté, on the ſouth by Burgundy, and on the weſt by the iſle of France and Soiſſonnois. It has a great number of rivers, the prineipal of which are the Meuſe, the Seine, the Marne, the Aube, and the Aine. Its principal trade conſiſts in excellent wine, all ſorts of corn, linen cloth, woollen ſtuffs, cattle, and ſheep. It is alſo divided into the higher and lower, and Troys is the capital town. Its ſub-diviſions are Champagne Proper, and Rhemois, the Retelois, the Pertois, the Vallage, Baligni, the Senonois, and the Brie Champenois.

Champagne Proper, is one of the eight parts of Champagne, which comprehend the towns of Troys, Chalons, St Menehold, Eperney, and Vertus.

CHAMPAIN, or *Point Champain*, in heraldry, a mark of diſhonour in the coat of arms of him who kills a priſoner of war after he has cried quarter.

CHAMPERTRY, in law, a ſpecies of maintenance, and puniſhed in the ſame manner; being a bargain with the plaintiff or defendant *campum partire*, "to divide the land," or other matter ſued for between them, if they prevail at law; whereupon the champertror is to carry on the party's ſuit at his own expence. Thus *Champart*, in the French law, ſignifies a ſimilar diviſion of profits, being a part of the crop annually due to the landlord by bargain or cuſtom. In our ſenſe of the word, it ſignifies the purchaſing of a ſuit, or right of ſuing; a practice ſo much abhorred by our law, that it is one main reaſon why a *choſe* in action, or thing of which one hath the right but not the poſſeſſion, is not aſſignable in common law; becauſe no man ſhould purchaſe any pretence to ſue in another's right. Theſe peſts of civil ſociety, that are perpetually endeavouring to diſturb the repoſe of their neighbours, and officiouſly interfering in other mens quarrels, even at the hazard of their own fortunes, were ſeverally animadverted on by the Roman law; and were puniſhed by the forfeiture of a third part of their goods and perpetual infamy. Hitherto alſo muſt be referred the proviſion of the ſtatute 32 Henry VIII. c. 9. that no one ſhall ſell or purchaſe any pretended right or title to land, unleſs the vendor hath received the profits thereof for one whole year before ſuch grant, or hath been in actual poſſeſſion of the land, or of the reverſion or remainder; on pain that both purchaſer and vender ſhall each forfeit the value of ſuch land to the king and the proſecutor.

CHAMPION, a perſon who undertakes a combat in the place or quarrel of another; and ſometimes the word is uſed for him who fights in his own cauſe.

It appears that champions, in the juſt ſenſe of the word, were perſons who fought inſtead of thoſe that, by cuſtom, were obliged to accept the duel, but had a juſt excuſe for diſpenſing with it, as being too old, infirm, or being eccleſiaſtics, and the like. Such cauſes as could not be decided by the courſe of common law, were often tried by ſingle combat; and he who had the good fortune to conquer, was always reputed to have juſtice on his ſide. See the article Battel. Champion ‖ Chance.

Champion of the King, (campio regis), is an ancient officer, whoſe office is, at the coronation of our kings, when the king is at dinner, to ride armed *cap-a-pee*, into Weſtminſter-Hall, and by the proclamation of an herald make a challenge, "That if any man ſhall deny the king's title to the crown, he is there ready to defend it in ſingle combat, *&c.*" which being done, the king drinks to him, and ſends him a gilt cup with a cover full of wine, which the champion drinks, and hath the cup for his fee. This office, at the coronation of king Richard II. when Baldwin Freville exhibited his petition for it, was adjudged from him to his competitor Sir John Dymocke (both claiming from Marmion), and hath continued ever ſince in the family of the Dymockes; who hold the manor of Sinvelſby in Lincolnſhire, hereditary from the Marmions by grand ſerjeantiy, *viz.* that the lord thereof ſhall be the king's champion as aforeſaid. Accordingly Sir Edward Dymocke performed this office at the coronation of king Charles II. a perſon of the name of Dymocke performed at the coronation of his preſent majeſty George the third.

CHAMPLAIN (Samuel de), a celebrated French navigator, the founder of the colony of New France, or Canada. He built Quebec; and was the firſt governor of the colony in 1603. Died after 1649. See Quebec.

CHANANAEI (anc. geog.) the name of the ancient inhabitants of Canaan in general, deſcendants of Canaan; but peculiarly appropriated to ſome one branch; though uncertain which branch or ſon of Canaan it was, or how it happened that they preferred the common gentilitious name to one more appropriated as deſcendants of one of the ſons of Canaan; unleſs from their courſe of life, as being in the mercantile way, the import of the name *Canaan*; and for which their ſituation was greatly adapted, they living on the ſea and about Jordan, and thus occupying the greater part of the Land of Promiſe.

CHANCE, a term we apply to events, to denote that they happen without any neceſſary or foreknown cauſe. See Cause.

Our aim is, to aſcribe thoſe things to *chance*, which are not neceſſarily produced as the natural effects of any proper cauſe: but our ignorance and precipitancy lead us to attribute effects to *chance*, which have a neceſſary and determinate cauſe.

When we ſay a thing happens *by chance*, we really mean no more than that its cauſe is unknown to us: not, as ſome vainly imagine, that *chance* itſelf can be the cauſe of any thing.

The caſe of the painter, who, unable to expreſs the foam at the mouth of a horſe he had painted, threw his ſponge in deſpair at the piece, and, *by chance*, did that which he could not before do by deſign, is an eminent inſtance of the force of *chance*: yet, it is obvious, all we here mean by *chance*, is, that the painter was not aware of the effect; or that he did not throw the ſponge with ſuch a view: not but that he actually did every thing neceſſary to produce the effect; inſomuch, that, conſidering the direction wherein

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Chance. wherein he threw his ſponge, together with its form, ſpecific gravity, the colours wherewith it was ſmeared, and the diſtance of the band from the piece, it was impoſſible, on the preſent ſyſtem of things, the effect ſhould not follow.

Chance is frequently perſonified, and erected into a chimerical being, whom we conceive as acting arbitrarily, and producing all the effects whoſe real cauſes do not appear to us: in which ſenſe the word coincides with the τυχη *fortuna*, of the ancients.

Chance is alſo uſed for the manner of deciding things, the conduct or direction whereof is left at large, and not reducible to any determinate rules or meaſures; or where there is no ground for preference: as at cards, dice, lotteries, &c.

For the Laws of Chance, or the Proportion of Hazard in Gaming, ſee Game.

The ancient *ſortilege*, or *chance*, M. Placette obſerves, was inſtituted by God himſelf; and in the Old Teſtament we find ſeveral ſtanding laws and expreſs commands which preſcribed its uſe on certain occaſions: hence the Scripture ſays, "The *lot*, or *chance*, fell on Matthias," when it was in queſtion who ſhould fill Judas's place in the apoſtolate.

Hence alſo aroſe the *ſortes ſanctorum*; or method of determining things, among the ancient Chriſtians, by opening ſome of the ſacred books, and pitching on the firſt verſe they caſt their eye on, as a ſure prognoſtic of what was to befal them. The *ſortes Homericæ*, *Virgilianæ*, *Præneſtinæ*, &c. uſed by the heathens, were with the ſame view, and in the ſame manner. See Sortes.

St Auguſtin ſeems to approve of this method of determining things future, and owns that he had practiſed it himſelf; grounded on this ſuppoſition, that God preſides over *chance*; and on Prov. xvi. 33.

Many among the modern divines hold *chance* to be conducted in a particular manner by Providence; and eſteem it an extraordinary way which God uſes to declare his will, and a kind of immediate revelation.

Chance-Medley, in law, is where one is doing a lawful act, and a perſon is killed by chance thereby; for if the act be unlawful, it is felony. If a perſon caſt, not intending harm, a ſtone, which happens to hit one, whereof he dies; or ſhoots an arrow in an highway, and another that paſſeth by is killed therewith; or if a workman, in throwing down rubbiſh from a houſe after warning to take care, kills a perſon; or a ſchoolmaſter in correcting his ſcholar, a maſter his ſervant, or an officer in whipping a criminal in a reaſonable manner, happens to occaſion his death; it is chance-medley and miſadventure. But if a man throw ſtones in a highway where perſons uſually paſs; or ſhoot an arrow, &c. in a market-place among a great many people; or if a workman caſt down rubbiſh from a houſe in cities and towns where people are continually paſſing; or a ſchoolmaſter, &c. correct his ſervant or ſcholar, &c. exceeding the bounds of moderation; it is manſlaughter: and if with an improper inſtrument of correction, as with a ſword or iron bar, or by kicking, ſtamping, &c. in a cruel manner, it is murder. If a man whips his horſe in a ſtreet to make him gallop, and the horſe runs over a child and kills it, it is manſlaughter: but if another whips the horſe, it is manſlaughter in him, and chance-medley in the rider. And if two are fighting, and a third perſon coming to part them is killed by one of them without any evil intent, yet this is murder in him, and not manſlaughter by chance medley or miſadventure. In chance-medley, the offender forfeits his goods; but hath a pardon of courſe. Chancel, Chancellor.

CHANCEL, is properly that part of the choir of a church, between the altar or communion-table and the baluſtrade or rail that incloſes it, where the miniſter is placed at the celebration of the communion. The word comes from the Latin *cancellus*, which in the lower Latin is uſed in the ſame ſenſe, from *cancelli*, "lattices or croſs bars," wherewith the chancels were anciently encompaſſed, as they now are with rails. The right of a ſeat and a ſepulchre in the chancels is one of the privileges of founders.

CHANCELLOR, was at firſt only a chief notary or ſcribe under the emperors; and was called *cancellarius*, becauſe he ſat behind a lattice (in Latin *cancellus*) to avoid being crowded by the people: though ſome derive the word from *cancellare*, "to cancel" (See Chancery). This officer was afterwards inveſted with ſeveral judicial powers, and a general ſuperintendency over the reſt of the officers of the prince. From the Roman empire it paſſed to the Roman church, ever emulous of imperial ſtate: and hence every biſhop has to this day his chancellor, the principal judge of his conſiſtory. And when the modern kingdoms of Europe were eſtabliſhed upon the ruins of the empire, almoſt every ſtate preſerved its chancellor with different juriſdictions and dignities, according to their different conſtitutions. But in all of them he ſeems to have had the ſuperviſion of all charters, letters, and ſuch other public inſtrumenta of the crown as were authenticated in the moſt ſolemn manner: and therefore, when ſeals came in uſe, he had always the cuſtody of the king's great ſeal.

Lord High Chancellor of Great Britain, or *Lord Keeper of the Great Seal*, is the higheſt honour of the long robe, being created by the mere delivery of the king's great ſeal into his cuſtody; whereby he becomes, without writ or patent, an officer of the greateſt weight and power of any now ſubſiſting in the kingdom. He is a privy counſellor by his office; and, according to Lord Chancellor Ellesmere, prolocutor of the houſe of lords by preſcription. To him belongs the appointment of all the juſtices of the peace throughout the kingdom. Being in former times commonly an eccleſiaſtic (for none elſe were then capable of an office ſo converſant in writing), and preſiding over the royal chapel, he became keeper of the king's conſcience; viſitor, in right of the king, of all hoſpitals and colleges of the king's foundation; and patron of all the king's livings under the value of L. 20 *per annum* in the king's books. He is the general guardian of all infants, ideots, and lunatics; and has the general ſuperintendance of all charitable uſes in the kingdom. And all this over and above the vaſt extenſive juriſdiction which he exerciſes in his judicial capacity in the court of chancery. He takes precedence of every temporal lord except the royal family, and of all others except the archbiſhop of Canterbury. See Chancery.

Chancellor, in Scotland, was the chief in matters of juſtice. In the laws of King Malcolm II. he is placed

Chancellor. placed before all other officers; and from theſe it appears, that he had the principal direction of the Chancery, or Chancellary as it is called, which is his proper office. He had the cuſtody of the king's ſeal; and he was the king's moſt intimate counſellor, as appears by an old law cited by Sir James Balfour: "The chancellar ſall at al tymes aſſiſt the king, in giving him counſall mhir ſecretly nor the reſt of the nobility, to quais ordinances all officiaris, als well of the realme as of the kingis hous, fould anſwer and obey. The chancellar ſall be ludgit neir unto the kingis grace, for keiping of his bodie, and the ſeill; and that he may be readie baith day and nicht at the kingis command." By having the cuſtody of the great ſeal, he had an opportunity of examining the king's grants and other deeds which were to paſs under it, and to cancel them if they appeared againſt law, and were obtained ſurreptitiouſly or by falſe ſuggeſtions.

King James VI. ordained the chancellor to have the firſt place and rank in the nation, *ratione officii*; by virtue whereof he preſided in the parliament, and in all courts of judicature. After the reſtoration of King Charles II. by a particular declaratory law, parliament firſt, the lord chancellor was declared, by virtue and right of his office, preſident in all the meetings of parliament, or other public judicatures of the kingdom. Although this act was made to declare the chancellor preſident of the exchequer as well as other courts, yet in 1663 the king declared the treaſurer to be preſident of that court.

The office of lord chancellor was aboliſhed by the Union, there being no farther uſe for the judicial part of this office; and, to anſwer all the other parts of the chancellor's office, a lord keeper of the great ſeal was erected, with a ſalary of L. 3000 a-year.

Chancellor of a Cathedral, an officer that hears leſſons and lectures read in the church, either by himſelf or his vicar; to correct and ſet right the reader when he reads amiſs; to inſpect ſchools; to hear cauſes; apply the ſeal; write and diſpatch the letters of the chapter; keep the books; take care that there be frequent preachings, both in the church and out of it; and aſſign the office of preaching to whom he pleaſes.

Chancellor of the Duchy of Lancaſter, an officer appointed chiefly to determine controverſies between the king and his tenants of the duchy-land, and otherwiſe to direct all the king's affairs belonging to that court. See *Duchy-Court*.

Chancellor of the Exchequer, an officer who preſides in that court, and takes care of the intereſt of the crown. He is always in commiſſion with the lord-treaſurer, for the letting of crown-lands, &c. and has power, with others, to compound for forfeitures of lands upon penal ſtatutes. He has alſo great authority in managing the royal revenues, and in matters relating to the firſt-fruits.

Chancellor of the Order of the Garter, and other Military Orders, is an officer who ſeals the commiſſions and mandates of the chapter and aſſembly of the knights, keeps the regiſter of their proceedings, and delivers acts thereof under the ſeal of their order.

Chancellor of an Univerſity, is he who ſeals the diplomas, or letters of degrees, proviſion, &c. given in the univerſity.

The chancellor of Oxford is uſually one of the prime nobility, choſen by the ſtudents themſelves in convocation. He is their chief magiſtrate; his office is, *durante vita*, to govern the univerſity, preſerve and defend its rights and privileges, convoke aſſemblies, and do juſtice among the members under his juriſdiction. Chancellor of Oxford.

Under the chancellor is the vice-chancellor, who is choſen annually, being nominated by the chancellor, and elected by the univerſity in convocation. He is always the head of ſome college, and in holy orders. His proper office is to execute the chancellor's power, to govern the univerſity according to her ſtatutes, to ſee that officers and ſtudents do their duty, that courts be duly called, &c. When he enters upon his office, he chooſes four pro-vice-chancellors out of the heads of the colleges, to execute his power in his abſence.

The chancellor of Cambridge is alſo uſually one of the prime nobility, and in moſt reſpects the ſame as that in Oxford; only he does not hold his office *durante vita*, but may be elected every three years. Under the chancellor there is a commiſſary, who holds a court of record for all privileged perſons and ſcholars under the degree of maſter of arts, where all cauſes are tried and determined by the civil and ſtatute law, and by the cuſtom of the univerſity.

The vice-chancellor of Cambridge is choſen annually by the ſenate, out of two perſons nominated by the heads of the ſeveral colleges and halls. Chancellor of Cambridge.

Chancellor's Court. See *University-Courts*.

CHANCERON, in natural hiſtory, a name given by the French writers to the ſmall caterpillar that eats the corn, and does vaſt miſchief in their granaries. See the article *Corn-Butterfly*.

CHANCERY, the higheſt court of juſtice in Britain next to the parliament, and of very ancient inſtitution. It has its name chancery *(cancellaria)* from the judge who preſides here, the lord chancellor, or *cancellarius*; who, according to Sir Edward Coke, is ſo termed *a cancellando*, from cancelling the king's letters patent when granted contrary to law, which is the higheſt point of his juriſdiction. In chancery there are two diſtinct tribunals: the one ordinary, being a court of common law; the other extraordinary, being a court of equity. Chancery.

1. The *ordinary* legal court holds pleas of recognizances acknowledged in the chancery, writs of *ſcire facias*, for repeal of letters patent, writs of partition, &c. and alſo of all perſonal actions by or againſt any officer of the court. Sometimes a *ſuperſedeas*, or writ of privilege, hath been here granted to diſcharge a perſon out of priſon; one from hence may have a *habeas corpus* prohibition, &c. in the vacation; and here a *ſubpœna* may be had to force witneſſes to appear in other courts, when they have no power to call them. But, in proſecuting cauſes, if the parties deſcend to iſſue, this court cannot try it by jury; but the lord chancellor delivers the record into the king's bench to be tried there; and after trial had, it is to be remanded into the chancery, and there judgment given: tho' if there be a demurrer in law, it ſhall be argued in this court. *Blackſt. Comment.*

In this court is alſo kept the *officina juſtitiæ*; out of which all original writs that paſs under the great ſeal, all commiſſions of charitable uſes, fewers, bankruptcy, idiocy,

Chancery. idiocy, lunacy, and the like, do iſſue; and for which it is always open to the ſubject, who may there at any time demand and have, *ex debito juſtitiæ*, any writ that his occaſions may call for. Theſe writs, relating to the buſineſs of the ſubject, and the returns of them, were, according to the ſimplicity of aocient times, originally kept in a hamper, *in banaperio;* and the others (relating to ſuch matters wherein the crown is mediately or immediately concerned) were preſerved in a little ſack or bag, *in parva baga:* and hence hath ariſen the diſtinction of the *banaper* office, and the *petty-bag* office, which both belong to the common law-court in chancery.

2. The *extraordinary* court, or court of equity, proceeds by the rules of equity and conſcience; and moderates the rigour of the commnn law, conſidering the *intention* rather than the *words* of the law. It gives relief for and againſt infants notwithſtanding their minority, and for and againſt married women notwithſtanding their coverture. All frauds and deceits for which there is no redreſs at common law; all breaches of truſt and confidence; and accidents, as to relieve obligors, mortgagers, &c. againſt penalties and forfeitures, where the intent was to pay the debt, are here remedied; for in chancery, a forfeiture, &c. ſhall not bind, where a thing may be done after or compoſition made for it. Alſo this court will give relief againſt the extremity of unreaſonable engagements entered into without conſideration; oblige creditors that are unreaſonable to compound with an unfortunate debtor; and make executors, &c. give ſecurity and pay intereſt for money that is to lie long in their hands. This court may confirm title to lands, thoughtone hath loſt his writings; and render conveyances, defective through miſtake, &c. good and perfect. In chancery, copy-holders may be relieved againſt the ill uſage of their lords; incloſures of lands that are common be decreed; and this court may decree money or lands given to charitable uſes, oblige men to account with each other, &c. But in all caſes where the plaintiff can have his remedy at law, he ought not to be relieved in chancery; and a thing which may be tried by a jury is not triable in this court.

The proceedings in chancery are, firſt to file the bill of complaint, ſigned by ſome counſel, ſetting forth the fraud or injury done, or wrong ſuſtained, and praying relief: after the bill is filed, proceſs of *ſubpœna* iſſues to compel the defendant to appear; and when the defendant appears, he puts in his anſwer to the bill of complaint, if there be no cauſe for the plea to the juriſdiction of the court, in diſability of the perſon, or in bar, &c. Then the plaintiff brings his replication, unleſs he files exceptions againſt the anſwer as inſufficient, referring it to a maſter to report whether it be ſufficient or not; to which report exceptions may alſo be made. The anſwer, replication, rejoinder, &c. being ſettled, and the parties come to iſſue, witneſſes are to be examined upon interrogatories, either in court or by commiſſion in the country, wherein the parties uſually join; and when the plaintiff and defendant have examined their witneſſes, publication is to be made of the depoſitions, and the cauſe is to be ſet down for hearing; after which follows the decree. But it is now uſual to appeal to the houſe of lords; which appeals are to be ſigned by two noted counſel, and exhibited by way of petition; the petition or appeal is lodged with the clerk of the houſe of lords, and read in the houſe, whereon the appellee is ordered to put in his anſwer, and a day fixed for hearing the cauſe; and after counſel heard, and evidence given on both ſides, the lords will affirm or reverſe the decree of the chancery, and finally determine the cauſe by a majority of votes, &c. Chandler. Chandler.

CHANDELIER, in fortification, a kind of moveable parapet, conſiſting of a wooden frame, made of two upright ſtakes, about ſix feet high, with croſs plaoks between them; ſerving to ſupport faſcines to cover the pioneers.

CHANDERNAGORE, a French ſettlement in the kingdom of Bengal in the Eaſt Indies. It lies on the river Ganges, two leagues and a half above Calcutta. The diſtrict is hardly a league in circumference, and has the diſadvantage of being ſomewhat expoſed on the weſtern ſide; but its harbour is excellent, and the air is as pure as it can be on the banks of the Ganges. Whenever any building is undertaken that requires ſtrength, it muſt here, as well as in all other parts of Bengal, be built upon piles; it being impoſſible to dig three or four feet without coming at water.

CHANDLER (Mary), diſtinguiſhed by her talent for poetry, was the daughter of a diſſenting miniſter at Bath; and was born at Malmſbury in Wiltſhire in 1687. She was bred a milliner; but from her childhood had a turn for poetry, and in her riper years applied herſelf to the ſtudy of the poets. Her poems, for which ſhe was complimented by Mr Pope, breathe the ſpirit of piety and philoſophy. She had the misfortune to be deformed, which determined her to live ſingle; though ſhe had great ſweetneſs of countenance, and was ſolicited to marry. She died in 1745, aged 58.

CHANDLER (Dr Samuel), a learned and reſpectable diſſenting miniſter, deſcended from anceſtors heartily engaged in the cauſe of religious liberty, and ſufferers for the ſake of conſcience and nonconformity; was born at Hungerford in Berks, where his father was a miniſter of conſiderable worth and abilities. Being by his literary turn deſtined to the miniſtry, he was firſt placed at an academy at Bridgewater, and from thence removed to Glouceſter under Mr Samuel Jones. Among the pupils of Mr Jones were Mr Joſeph Butler, afterwards biſhop of Durham, and Mr Thomas Secker, afterwards archbiſhop of Canterbury. With theſe eminent perſons he contracted a friendſhip that continued to the end of their lives, notwithſtanding the different views by which their conduct was afterwards directed, and the different ſituations in which they were placed.

Mr Chandler having finiſhed his academical ſtudies, began to preach about July 1714; and being ſoon diſtinguiſhed by his talents in the pulpit, he was choſen in 1716 miniſter of the Preſbyterian congregation at Peckham near London, in which ſtation he continued ſome years. Here he entered in the matrimonial ſtate, and began to have an increaſing family, when, by the fatal South-ſea ſcheme of 1720, he unfortunately loſt the whole fortune which he had received with his wife. His circumſtances being thereby embarraſſed, and his income as a miniſter being inadequate to his expences, he engaged in the trade of a bookſeller, and kept a ſhop in the Poultry, London, for about two or three

years,

Chandler

years, ſtill continuing to diſcharge the duties of the paſtoral office. He alſo officiated as joint preacher with the learned Dr Lardner of a winter weekly evening lecture at the meeting-houſe in the Old Jewry, London: in which meeting he was eſtabliſhed aſſiſtant preacher about the year 1725, and then as the paſtor. Here he miniſtered to the religious improvement of a very reſpectable congregation for 40 years with the greateſt applauſe; and with what diligence and application he improved the vacancies of time from his paſtoral duties, for improving himſelf and benefiting the world, will appear from his many writings on a variety of important ſubjects. While he was thus laudably employed, not only the univerſities of Edinburgh and Aberdeen gave him, without any application, teſtimonies of their eſteem in diplomas, conferring on him the degree of D. D. but he alſo received offers of preferment from ſome of the governors of the eſtabliſhed church, which he nobly declined. He had likewiſe the honour of being afterwards elected F. R. and A. SS.

On the death of George II. in 1760, Dr Chandler publiſhed a ſermon on that event, in which he compared that prince to King David. This gave riſe to a pamphlet, which was printed in the year 1761, intitled "The Hiſtory of the Man after God's own Heart;" wherein the author ventured to exhibit King David as an example of perfidy, luſt, and cruelty, fit only to be ranked with a Nero or a Caligula; and complained of the inſult that had been offered to the memory of the late Britiſh monarch by Dr Chandler's parallel between him and the king of Iſrael. This attack occaſioned Dr Chandler to publiſh in the following year "A Review of the Hiſtory of the Man after God's own Heart; in which the Falſehoods and Miſrepreſentations of the Hiſtorian are expoſed and corrected." He alſo prepared for the preſs a more elaborate work, which was afterwards publiſhed in two volumes 8vo, under the following title: "A Critical Hiſtory of the Life of David: in which the principal Events are ranged in Order of time; the chief Objections of Mr Bayle and others againſt the Character of this Prince, and the Scripture Account of him, and the Occurrences of his Reign, are examined and refuted; and the Pſalms which refer to him explained." As this was the laſt, it was likewiſe one of the beſt, of Dr Chandler's productions. The greateſt part of this work was printed off at the time of our author's death, which happened May 8th 1766, aged 73. During the laſt year of his life, he was viſited with frequent returns of a very painful diſorder, which he endured with great reſignation and Chriſtian fortitude. He was interred in the burying-ground at Bunhill-fields on the 16th of the month; and his funeral was very honourably attended by miniſters and other gentlemen. He expreſsly deſired, by his laſt will, that no delineation of his character might be given in his funeral ſermon, which was preached by Dr Amory. He had ſeveral children; two ſons and a daughter who died before him, and three daughters who ſurvived him; two of whom are yet living, and both married, one of them to the Rev. Dr Harwood.

Dr Chandler was a man of very extenſive learning and eminent abilities; his apprehenſion was quick and his judgment penetrating; he had a warm and vigorous imagination; he was a very inſtructive and animated preacher; and his talents in the pulpit and as a writer procured him very great and general eſteem, not only among the diſſenters, but among large numbers of the eſtabliſhed church. He was principally inſtrumental in the eſtabliſhment of the fund for relieving the widows and orphans of poor Proteſtant diſſenting miniſters: the plan of it was firſt formed by him; and it was by his intereſt and application to his friends that many of the ſubſcriptions for its ſupport were procured.

Chandler, Chang-tong.

In 1768, four volumes of our author's ſermons were publiſhed by Dr Amory, according to his own directions in his laſt will; to which was prefixed a neat engraving of him, from an excellent portrait by Mr Chamberlin. He alſo expreſſed a deſire to have ſome of his principal pieces reprinted in four volumes 8vo: propoſals were accordingly publiſhed for that purpoſe, but did not meet with ſufficient encouragement. But in 1777, another work of our author was publiſhed in one volume 4to, under the following title: "A Paraphraſe and Notes on the Epiſtles of St Paul to the Galatians and Epheſians, with doctrinal and practical Obſervations: together with a critical and practical Commentary on the two Epiſtles of St Paul to the Theſſalonians." Dr Chandler alſo left, in his interleaved Bible, a large number of critical notes, chiefly in Latin, which are now the property of Dr Kippis, Mr Farmer, Dr Price, and Dr Savage, and which have been intended to be publiſhed; but the deſign has not yet been executed. A complete liſt of Dr Chandler's works is given in the Biographia Britannica, vol. III. p. 435.

CHANG-TONG, a province of China, bounded on the eaſt by Petcheli and part of Honan, on the ſouth by Kiang-nan, on the eaſt by the ſea, and on the north by the ſea and part of Petcheli. The country is well watered by lakes, ſtreams, and rivers; but is nevertheleſs liable to ſuffer from drought, as rain falls here but ſeldom. The locuſts alſo ſometimes make great devaſtation. However, it abounds greatly in game; and there is perhaps no country where quails, partridges, and pheaſants, are ſold cheaper, the inhabitants of this province being reckoned the keeneſt ſportſmen in the empire. The province is greatly enriched by the river Yun, called the *Grand Imperial Canal*, through which all the barks bound to Pekin muſt paſs in their way thither. The duties on this canal alone amount to more than L. 450,000 annually. The canal itſelf is greatly admired by European travellers on account of its ſtrong and long dikes, the banks decorated with cut ſtone, the ingenious mechaniſm of its locks, and the great number of natural obſtacles which have been overcome in the execution of the work.—The province produces ſilk of the ordinary kind; and, beſides this, another from a ſort of inſect reſembling our caterpillar. It is coarſer than the ordinary ſilk, but much ſtronger and more durable; ſo that the ſtuffs made from it have a very extenſive ſale throughout the empire.

Chang-tong is remarkable for being the birth-place of the celebrated philoſopher and lawgiver Confucius. His native city is called *Kio-feou*, where there are ſeveral monuments erected in honour of this great man. The province is divided into ſix diſtricts, which contain ſix cities of the firſt claſs, and 114 of the ſecond

Chang-tong Changes.

and third. Along the coaſt, alſo, are 15 or 16 villages of conſiderable importance on account of their commerce; there are likewiſe a number of ſmall iſlands, moſt of which have harbours very convenient for the Chineſe junks which paſs from thence to Corea or Leatong. The moſt remarkable cities are, 1. Tſi-nan-fou, the capital, which ſtands ſouth of the river Tſingho or Tſi. It is large and populous; but chiefly celebrated for having been the reſidence of a long ſeries of kings, whoſe tombs, riſing on the neighbouring mountains, afford a beautiful proſpect. 2. Yen-tcheu-fou, the ſecond city of the province, ſituated between two rivers, and in a mild and temperate climate. Great quantities of gold are ſaid to have been formerly collected in its neighbourhood. 3. Lin-tçin-tcheu, ſituated on the great canal, is much frequented by ſhips, and may be called a general magazine for every kind of merchandiſe. Here is an octagonal tower, divided into eight ſtories, the walls of which are covered on the outſide with porcelain loaded with various figures neatly executed, and encruſted on the inſide with variouſly coloured marble. A ſtaircaſe, conſtructed in the wall, conducts to all the ſtories, from which there are paſſages that lead into magnificent galleries ornamented with gilt balluſtrades. All the cornices and projections of the tower are furniſhed with little bells; which, ſays Mr Groſier, when agitated by the wind, form a very agreeable harmony. In the higheſt ſtory is an idol of gilt copper, to which the tower is dedicated. In the neighbourhood are ſome other temples, the architecture of which is exceedingly beautiful.

CHANGER, an officer belonging to the king's mint, who changes money for gold or ſilver bullion. See MINT.

Money-Changer, is a banker who deals in the exchange, receipt, and payment, of moneys. See BANKER.

CHANGES, in arithmetic, &c. the permutations or variations of any number of quantities; with regard to their poſition, order, &c. See COMBINATION.

To find all the poſſible Changes of any Number of Quantities, or how oft their Order may be varied.] Suppoſe two quantities *a* and *b*. Since they may be either wrote *a b* or *b a*, it is evident their *changes* are 2=2.1. Suppoſe three quantities *a b c*: their *changes* will be as in the margin; as is evident by combining *c* firſt with *a b*, then with *b a*; and hence the number of *changes* ariſes 3. 2. 1=6. If the quantities be 4, each may be combined four ways with each order of the other three; whence the number of changes ariſes 6. 4=4. 3. 2. 1.=24. Wherefore, if the number of quantities be ſuppoſed *n*, the number of *changes* will be *n.n*—1.*n*—2.*n*—3.*n*—4.&c. If the ſame quantity occur twice, the *changes* of two will be found *b b*; of three, *b a b*, *a b b*, *b b c*; of four, *c b a b*, *b c a b*, *b a b c*. And thus the number of *changes* in the firſt caſe will be 1=(2. 1): 2. 1; in the ſecond, 3=(3. 2. 1): 2. 1: in the third, 12=(4. 3. 2. 1): 2. 1.

c a b
a c b
a b c
——
c b a
b c a
b a c

If a fifth letter be added, in each ſeries of four quantities, it will beget five *changes*, whence the number of all the *changes* will be 60=(5. 4. 3. 2.) 1; 2. 1. Hence if the number of quantities be *n*, the number of *changes* will be (*n.n*—1.*n*—2.*n*—3.*n*.—4. &c.): 2. 1.

From theſe ſpecial formulæ may be collected a general one, viz. if *n* be the number of quantities, and *m* the number which ſhows how oft the ſame quantity occurs; we ſhall have (*n.n*—1.*n*—2.*n*—3.*n*—4.*n*—5.*n*—6.*n*—7.*n*—8.*n*—9. &c.): *m*—1.*m*—2.*m*—3.*m*—4. &c.) the ſeries being to be continued, till the continual ſubtraction of unity from *n* and *m* leave 0. After the ſame manner we may proceed further, till putting *s* for the number of quantities, and *l*, *m*, *r*, &c. for the number that ſhows how oft any of them is repeated, we arrive at an univerſal form. (*n.n*—1.*n*—2.*n*—3.*n*—4.*n*—5.*n*—6.*n*—7.*n*—8. &c.): (*l.l*—1.*l*—2.*l*—3.*l*—4.*l*—5. &c. *m.m*—1.*m*—2.*m*—3. &c. *r.r*—1.*r*—2.*r*—3.*r*—4.*r*—5. &c.

Suppoſe, for inſtance, *n*=6, *l*=3, *r*=0. The number of *changes* will be (6. 5. 4. 3. 2. 1.): (3. 2. 1. 3. 2. 1.) =(6. 5. 4.): (3. 2=2. 5. 2=20).

Hence, ſuppoſe thirteen perſons at a table, if it be required how oft they may *change* places; we ſhall find the number 13. 12. 11. to 9. 8. 7. 6. 5. 4. 3. 2. 1. =6227020800.

In this manner may all the poſſible anagrams of any word be found in all languages, and that without any ſtudy: ſuppoſe *v. g.* it were required to find the anagrams of the word *amor*, the number of *changes* will be

a	*oam*	*rmoa*	*maro*	*arom*
——	*aom*	*mroa*	*maor*	*aorm*
ma	*amo*	*mora*	——	*aomr*
am	——	*moar*	*raom*	——
——	*roma*	——	*oram*	*ramo*
oma	*orma*	*rmao*	*oarm*	*armo*
moa	*omra*	*mrao*	*oamr*	*amro*
mao	*omar*		——	*amar*
			raom	

The anagrams therefore of the word *amor*, in the Latin tongue, are *roma*, *mora*, *maro*, *ramo*, *armo*. See ANAGRAM.

Whether this new method of anagramatizing be like to prove of much ſervice to that art, is left to the poets.

CHANNA, in zoology, the name of a fiſh caught in great plenty in the Mediterranean, and brought to market in Italy and elſewhere, among the ſea-perch, which it ſo nearly reſembles, that it would not be diſtinguiſhable from it, but that the ſea-perch is bigger, and has only broad tranſverſe lines on its back, whereas the channa has them both tranſverſe and longitudinal. It has a very wide mouth, and its lower jaw is longer than its upper; ſo that its mouth naturally falls open. Its eyes are ſmall, and its teeth very ſharp: its back is of a blackiſh red: it has ſeveral longitudinal lines of a reddiſh hue, and its tail is marked with reddiſh ſpots. There is an obſervation, that in all the fiſh of this kind which have been examined by naturaliſts, there have been found none but females. This is as old as the days of Ariſtotle. Whether this be true in fact, would require many obſervations. If it ſhould prove ſo, the whole ſeems to end in this, that the channa is no diſtinct ſpecies, but only the female of ſome other fiſh. There is another fiſh not unlike this, called *cannadella*, or rather *channadella*, which at Marſeilles is known by the name of *charina*.

Change Channel

CHANNEL, in geography, an arm of the ſea, or a narrow ſea between two continents, or between a continent

Channel ‖ Chant.

continent and an iſland. Such are the Britiſh channel, St George's channel, the channel of Conſtantinople, &c.

Channel of a Ship. See Chain-Wales.

CHAN-si, a province of China, and one of the ſmalleſt in the empire, is bounded on the eaſt by Petcheli, on the ſouth by Honan, on the weſt by Chen-ſi, and on the north by the great wall. The climate is healthful and agreeable, and the ſoil generally fertile, though the country is full of mountains. Some of theſe laſt are rough, wild, and uninhabited; but others are cultivated with the greateſt care from top to bottom, and cut into terraces, forming a very agreeable proſpect; while ſome have on their tops vaſt plains no leſs fertile than the richeſt low-lands. Theſe mountains abound with coal, which the inhabitants pound and make into cakes with water; a kind of fuel which, though not very inflammable, affords a ſtrong and laſting fuel when once kindled. It is principally uſed for heating their ſtoves, which are conſtructed with brick as in Germany; but the inhabitants of this province give them the form of ſmall beds, and ſleep upon them. The beſt grapes to be met with in this part of Aſia grow in the province of Chan-ſi; ſo that good wine might be made, but the people chooſe rather to dry and ſell them to the neighbouring provinces. The country abounds with muſk, porphyry, marble, lapis lazuli, and jaſper of various colours; and iron mines as well as ſalt-pits and cryſtal are very common. Here are five cities of the firſt claſs, and eighty-five of the ſecond and third: the moſt remarkable are, 1. Tai-youen-fou the capital, an ancient city about three leagues circumference, but much decayed in conſequence of being no longer the reſidence of the princes of the blood as it was formerly. Nothing now remains of the palaces of thoſe princes but a few ruins; but their tombs are ſtill to be ſeen on a neighbouring mountain. The burying-place is magnificently ornamented; and all the tombs are of marble or cut ſtone, having near them triumphal arches, ſtatues of heroes, figures of lions and different animals, eſpecially horſes, and which are diſpoſed in very elegant order. An awful and melancholy gloom is preſerved around theſe tombs by groves of aged cypreſſes, which have never felt the ſtroke of an axe, placed chequer-wiſe. The principal articles of trade here are, hard-ware, ſtuffs of different kinds, particularly carpets in imitation of thoſe of Turky. 2. Ngan-y is ſituated near a lake as ſalt as the ocean, from which a great quantity of ſalt is extracted. 3. Fuen-tcheou-fou, an ancient and commercial city, built on the banks of the river Fuenho: it has baths and ſprings almoſt boiling hot, which by drawing hither a great number of ſtrangers, add greatly to its opulence. 4. Tai-tong-fou, ſituated near the wall, is a place of great ſtrength, and important by reaſon of its ſituation, as being the only one expoſed to the incurſions of the Tartars. Its territories abound with lapis lazuli, medicinal herbs, and a particular kind of jaſper called *yierbe*, which is as white and beautiful as agate; marble and porphyry are alſo common; and a great revenue is produced from the ſkins which are dreſſed here.

CHANT, *(cantus)*, is uſed for the vocal muſic of churches.

In church-hiſtory we meet with divers kinds of *chant* or *ſong*. The firſt is the *Ambroſian*, eſtabliſhed by St Ambroſe. The ſecond, the *Gregorian chant*, introduced by Pope Gregory the great, who eſtabliſhed ſchools of chantors, and corrected the church-ſong. This is ſtill retained in the church under the name of *plain ſong*: at firſt it was called the *Roman ſong*. The *plain* or *Gregorian chant*, is where the choir and people ſing in uniſon, or all together in the ſame manner.

Chantilly ‖ Chaos.

CHANTILLY, a village in France, about ſeven leagues from Paris, where there is a magnificent palace and fine foreſt belonging to the duke of Bourbon.

CHANTOR, a ſinger of a choir in a cathedral. The word is almoſt grown obſolete, *choriſter* or *ſinging-man* being commonly uſed inſtead of it. All great chapters have chantors and chaplains to aſſiſt the canons, and officiate in their abſence.

Chantor is uſed by way of excellence for the precentor or maſter of the choir, which is one of the firſt dignities of the chapter. At St David's in Wales, where there is no dean, he is next in dignity to the biſhop. The ancients called the chantor *primicerius cantorum*. To him belonged the direction of the deacons and other inferior officers.

Chantors, in the temple of Jeruſalem, were a number of Levites employed in ſinging the praiſes of God, and playing upon inſtruments before his altar. They had no habits diſtinct from the reſt of the people; yet in the ceremony of removing the ark to Solomon's temple, the chantors appeared dreſſed in tunics of byſſus or fine linen. 2 Chron. v. 12.

CHANTRY, or Chauntay, was anciently a church or chapel endowed with lands, or other yearly revenue, for the maintenance of one or more prieſts, daily ſaying or ſinging maſs for the ſouls of the donors, and ſuch others as they appointed. Hence *chauntry-rents* are rents paid to the crown by the tenants or purchaſers of *chauntry lands*.

CHAOLOGY, the hiſtory or deſcription of the chaos. See Chaos.

Orpheus, in his chaology, ſets forth the different alterations, ſecretions, and divers forms which matter went through till it became inhabitable, which amounts to the ſame with what we otherwiſe call *coſmogony*. Dr Burnet, in his theory of the earth, repreſents the chaos as it was at firſt, entire, undivided, and univerſally rude and deformed; or the *tohu bohu*: then ſhows how it came to be divided into its reſpective regions; how the homogeneous matter gathered itſelf apart from all of a contrary principle; and laſtly, how it hardened, and became a ſolid habitable globe. See Earth.

CHAOS, that confuſion in which matter lay when newly produced out of nothing at the beginning of the world, before God, by his almighty word, had put it into the order and condition wherein it was after the ſix days creation. See Earth.

Chaos is repreſented by the ancients as the firſt principle, ovum, or ſeed of nature and the world. All the ſophiſts, ſages, naturaliſts, philoſophers, theologues, and poets, held that chaos was the eldeſt and firſt principle, το αρχαιον χαος. The Barbarians, Phœnicians, Egyptians, Perſians, &c. all refer the origin of the world to a rude, mixed, confuſed maſs of matter. The Greeks, Orpheus, Heſiod, Menander, Ariſtophanes, Euripides, and the writers of the Cyclic Poems, all ſpeak

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Chaos ‖ Chapeau.

ſpeak of the firſt chaos: the Ionic and Platonic philoſophers build the world out of it. The Stoics hold, that as the world was firſt made of a chaus, it ſhall at laſt be reduced to a chaos; and that its periods and revolutions in the mean time are only tranſitions from one chaos to another. Laſtly, the Latins, as Ennius, Varro, Ovid, Lucretius, Statius, &c. are all of the ſame opinion. Nor is there any ſect or nation whatever, that does not derive their *διακοσμησις, the ſtructure of the world*, from a chaos.

The opinion firſt aroſe among the Barbarians, whence it ſpread to the Greeks, and from the Greeks to the Romans and other nations. Dr Burnet obſerves, that beſides Ariſtotle and a few other pſeudo-Pythagoreans, nobody ever aſſerted that our world was always from eternity of the ſame nature, form, and ſtructure, as at preſent; but that it had been the ſtanding opinion of the wiſe men of all ages, that what we now call the *terreſtrial globe*, was originally an unformed, indigeſted maſs of heterogeneous matter, called *chaos*; and no more than the rudiments and materials of the preſent world.

It does not appear who firſt broached the notion of a chaos. Moſes, the eldeſt of all writers, derives the origin of this world from a confuſion of matter, dark, void, deep, without form, which he calls *tohu bohu*; which is preciſely the chaos of the Greek and Barbarian philoſophers. Moſes goes no further than the chaos; nor tells us whence it took its origin, or whence its confuſed ſtate; and where Moſes ſtops, there, preciſely, do all the reſt. Dr Burnet endeavours to ſhow, that as the ancient philoſophers, &c. who wrote of the coſmogony, acknowledged a chaos for the principle of their world; ſo the divines, or writers of the theogony, derive the origin or generation of their fabled gods from the ſame principle.

Mr Whiſton ſuppoſes the ancient chaos, the origin of our earth, to have been the atmoſphere of a comet; which, though new, yet, all things conſidered, is not the moſt improbable aſſertion. He endeavours to make it out by many arguments, drawn from the agreement which appears to be between them. So that, according to him, every planet is a comet, formed into a regular and laſting conſtitution, and placed at a proper diſtance from the ſun, revolving in a nearly circular orbit: and a comet is a planet either beginning to be deſtroyed or re-made; that is, a chaos or planet unformed or in its primæval ſtate, and placed as yet in an orbit very eccentrical.

Chaos, in the phraſe of Paracelſus, imports the air. It has alſo ſome other ſignifications amongſt the alchemiſts.

Chaos, in zoology, a genus of inſects belonging to the order of vermes zoophyta. The body has no ſhell or covering, and is capable of reviving after being dead to appearance for a long time: it has no joints or external organs of ſenſation. There are five ſpecies, moſtly obtained by infuſions of different vegetables in water, and only diſcoverable by the microſcope. See Animalcule.

CHAPEAU, in heraldry, an ancient cap of dignity worn by dukes, being ſcarlet-coloured velvet on the outſide, and lined with a fur. It is frequently borne above an helmet inſtead of a wreath, under gentlemens creſts.

Chapel ‖ Chapelet.

CHAPEL, a place of divine worſhip, ſo called. The word is derived from the Latin *capella*. In former times, when the kings of France were engaged in war, they always carried St Martin's hat into the field, which was kept in a tent as a precious relic: from whence the place was called *capella*; and the prieſts, who had the cuſtody of the tent, *capellani*. Afterwards the word *capella* became applied to private oratories.

In Britain there are ſeveral ſorts of chapels. 1. Parochial chapels: theſe differ from pariſh-churches only in name; they are generally ſmall, and the inhabitants within the diſtrict few. If there be a preſentation *ad eccleſiam*, inſtead of *capellam*, and an admiſſion and inſtitution upon it, it is no longer a chapel, but a church. 2. Chapels, which adjoin to, and are part of the church: ſuch were formerly built by honourable perſons, as burying-places for themſelves and their families. 3. Chapels of eaſe: theſe are uſually built in very large pariſhes, where all the people cannot conveniently repair to the mother-church. 4. Free chapels; ſuch as were founded by kings of England. They are free from all epiſcopal juriſdiction, and only to be viſited by the founder and his ſucceſſors; which is done by the lord chancellor: yet the king may licenſe any ſubject to build and endow a chapel, and by letters patent exempt it from the viſitation of the ordinary. 5. Chapels in the univerſities, belonging to particular colleges. 6. Domeſtic chapels, built by noblemen or gentlemen for the private ſervice of God in their families. See Chaplain.

Chapel is alſo a name given to a printer's work-houſe; becauſe, according to ſome authors, printing was firſt actually performed in chapels or churches; or, according to others, becauſe Caxton, an early printer, exerciſed the art in one of the chapels in Weſtminſter Abbey. In this ſenſe they ſay, *the orders* or *laws of the chapel, the ſecrets of the chapel*, &c.

Knights of the Chapel, called alſo *Poor knights of Windſor*, were inſtituted by Henry VIII. in his teſtament. Their number was at firſt thirteen, but has been ſince augmented to twenty-ſix. They aſſiſt in the funeral ſervices of the kings of England: they are ſubject to the office of the canons of Windſor, and live on penſions aſſigned them by the order of the garter. They bear a blue or red cloak, with the arms of St George on the left ſhoulder.

CHAPELAIN (James), an eminent French poet born at Paris in 1595, and often mentioned in the works of Balzac, Menage, and other learned men. He wrote ſeveral works, and at length diſtinguiſhed himſelf by an heroic poem called *La Pucelle, ou France Delivrée*, which employed him ſeveral years; and which, raiſing the expectation of the public, was as much decried by ſome as extolled by others. He was one of the king's counſellors; and died in 1674, very rich, but was very covetous and ſordid.

CHAPELET, in the manege, a couple of ſtirrup-leathers, mounted each of them with a ſtirrup, and joined at top in a ſort of leather buckle, called the *head of the chapelet*, by which they are made faſt to the pummel of the ſaddle, after being adjuſted to the rider's length and bore. They are uſed both to avoid the trouble of taking up or letting down the ſtirrups every time that the gentleman mounts on a different horſe and

Chapelle || Chaplain.

and ſaddle, and to ſupply the place of the academy ſaddles, which have no ſtirrups to them.

CHAPELLE (Claudius Emanuel Luillier), the natural ſon of Francis Luillier, took the name of *Chapelle* from a village between Paris and St Denys, where he was born. He diſtinguiſhed himſelf by writing ſmall pieces of poetry, in which he diſcovered great delicacy, an eaſy turn, and an admirable facility of expreſſion. He was the friend of Gaſſendi and Moliere; and died in 1686.

CHAPERON, Chaperonne, or Chaperoon, properly ſignifies a ſort of hood or covering of the head anciently worn both by men and women, the nobles and the populace, and afterwards appropriated to the doctors, and licentiates in colleges, &c. Hence the name paſſed to certain little ſhields, and other funeral devices, placed on the foreheads of the horſes that drew the hearſes in pompous funerals, and which are ſtill called *chaperoons*, or *ſhaffrons*; becauſe ſuch devices were originally faſtened on the *chaperonnes*, or hoods, worn by thoſe horſes with their other coverings of ſtate.

Chaperon of a bit-mouth, in the manege, is only uſed for ſcatch-mouths, and all others that are not cannon-mouths, ſignifying the end of the bit that joins to the branch juſt by the banquet. In ſcatch-mouths the chaperon is round, but in others it is oval: and the ſame part that in ſcatch and other mouths is called *chaperon*, is in cannon-mouths called *fronceau*.

CHAPITERS, in architecture, the ſame with Capitals.

Chapiters, in law, formerly ſignified a ſummary of ſuch matters as were inquired of, or preſented before juſtices in eyre, juſtices of aſſize, or of the peace in their ſeſſions.

Chapiters, at this time, denote ſuch articles as are delivered by the mouth of the juſtice in his charge to the inqueſt.

CHAPLAIN properly ſignifies a perſon provided with a chapel; or who diſcharges the duty thereof.

Chaplain is alſo uſed for an eccleſiaſtical perſon, in the houſe of a prince, or a perſon of quality, who officiates in their chapels, &c.

In England there are 48 chaplains to the king, who wait four each month, preach in the chapel, read the ſervice to the family, and to the king in his private oratory, and ſay grace in the abſence of the clerk of the cloſet. While in waiting they have a table, and attendance, but no ſalary. In Scotland the king has ſix chaplains, with a ſalary of L. 50 each, three of them having in addition the deanery of the chapel-royal divided between them, making up above L. 100 to each. Their only duty at preſent is to ſay prayers at the election of peers for Scotland to ſit in parliament.——According to a ſtatute of Henry VIII. the perſons veſted with a power of retaining chaplains, together with the number each is allowed to qualify, is as follows: An archbiſhop, eight; a duke or biſhop, ſix; marquis or earl, five; viſcount, four; baron, knight of the garter, or lord chancellor, three; a dutcheſs, marchioneſs, counteſs, baroneſs, the treaſurer and comptroller of the king's houſe, clerk of the cloſet, the king's ſecretary, dean of the chapel, almoner, and maſter of the rolls, each of them two; chief juſtice of the king's bench, and warden of the cinque-ports, each one. All theſe chaplains may purchaſe a licence or diſpenſation, and take two benefices with cure of ſouls. A chaplain muſt be retained by letters teſtimonial under hand and ſeal; for it is not ſufficient that he ſerve as chaplain in the family. Chaplain || Chaplet

The firſt chaplains are ſaid to have been thoſe inſtituted by the ancient kings of France, for preſerving the chape, or cape, with the other relics of St Martin, which the kings kept in their palace, and carried out with them to the war. The firſt chaplain is ſaid to have been Gul. de Meſmes, chaplain to St Louis.

Chaplain in the order of Malta, is uſed for the ſecond rank, or claſs, in that order; otherwiſe called *diaco*.

The knights make the firſt claſs, and the chaplains the ſecond.

Chaplains of the Pope, are the auditors, or judges of cauſes in the ſacred palace; ſo called, becauſe the pope anciently gave audience in his chapel, for the deciſion of caſes ſent from the ſeveral parts of Chriſtendom. He hither ſummoned as aſſeſſors the moſt learned lawyers of his time; and they hence acquired the appellation of *capellani*, chaplains. It is from the decrees formerly given by theſe, that the body of decretals is compoſed: their number pope Sixtus IV. reduced to twelve.

Some ſay, the ſhrines of relics were covered with a kind of tent, cape, or *capella*, i. e. little cape; and that hence the prieſts, who had the care of them, were called chaplains. In time theſe relics were repoſited in a little church, either contiguous to a larger, or ſeparate from it; and the ſame name, *capella*, which was given to the cover, was alſo given to the place where it was lodged: and hence the prieſt who ſuperintended it came to be called chaplain.

CHAPLET, an ancient ornament for the head, like a garland or wreath; but this word is frequently uſed to ſignify the circle of a crown. There are inſtances of its being borne in a coat of arms, as well as for creſts; the paternal arms for Laſcelles are argent, three chaplets, gules.

Chaplet alſo denotes a ſtring of beads uſed by the Roman Catholics, to count the number of their prayers. The invention of it is aſcribed to Peter the hermit, who probably learned it of the Turks, as they owe it to the Eaſt-Indians.

Chaplets are ſometimes called *pater-noſters*; and are made of coral, of diamonds, of wood, &c. The common chaplet contains fifty ave-marias, and five pater-noſters. There is alſo a chaplet of our Saviour, conſiſting of 33 beads, in honour of his 33 years living on earth, inſtituted by father Michael the Camaldulian.

The Orientals have a kind of chaplets which they call *chains*, and which they uſe in their prayers, inſcribing one of the perfections of God on each link or bead. The Great Mogul is ſaid to have 18 of theſe chains, all precious ſtones; ſome diamonds, others rubies, pearls, &c. The Turks have likewiſe chaplets, which they bear in the hand, or hang at the girdle: but father Dandini obſerves, they differ from thoſe uſed by the Romaniſts, in that they are all of the ſame bigneſs, and have not that diſtinction into decads; though they conſiſt of ſix decads, or 60 beads. He adds, that the muſſulmans run over the chaplet almoſt in an inſtant, the prayers being extremely ſhort, as containing only theſe words, "praiſe to God," or

"glory

Chaplet ‖ Chapter.

" glory to God," for each bead. Beſides the common chaplet they have likewiſe a larger one conſiſting of 100 beads, where there is ſome diſtinction, as being divided by little threads into three parts; on one of which they repeat 30 times *ſoubhan Allah*, i. e. " God is worthy to be praiſed;" on another, *ellamb Allah*, " glory be to God;" and on the third, *Allah e.ber*, " God is great." Theſe thrice thirty times making only 90; to complete the number 100, they add other prayers for the beginning of the chaplet.—He adds, that the Mahometan chaplet appears to have had its riſe from the *mea beracath*, or " hundred benedictions;" which the Jews are obliged to repeat daily, and which we find in their prayer-books; the Jews and Mahometans having this in common, that they ſcarce do any thing without pronouncing ſome laud or benediction.

Menage derives the word *chaplet* from *chapeau*, " hat." The modern Latins call it *chapellina*, the Italians more frequently *corona*.

Chaplet, or *Chapelet*, in architecture, a little moulding, cut, or carved into round beads, pearls, olives, or the like.

CHAPMAN (George), born in 1557, a man highly eſteemed in his time for his dramatic and poetic works. He wrote 17 plays; tranſlated Homer and ſome other ancient poets; and was thought no mean genius. He died in 1634; and was buried in St Giles's in the fields, where his friend Inigo Jones erected a monument to him.

CHAPPE', in heraldry, the dividing an eſcutcheon by lines drawn from the centre of the upper edge to the angles below, into three parts, the ſections on the ſides being of different metal or colour from the reſt.

CHAPPEL IN FAITH, a market-town of Derbyſhire, about 26 miles north-weſt of Derby; W. Long. 1. 50. N. Lat. 53. 22.

Chappel (William) a learned and pious biſhop of Cork, Cluyne, and Roſs, in Ireland, born in Nottinghamſhire in 1582. When the troubles began under Charles I. he was proſecuted by the puritan party in parliament, and retired to Derby, where he devoted himſelf to ſtudy until his death in 1649. He wrote *Methodus Concionandi*, i. e. " the method of preaching:" and he is one of thoſe to whom the *Whole Duty of Man* has been attributed. He left behind him alſo his own life written by himſelf in Latin, which has been twice printed.

CHAPTER, in eccleſiaſtical polity, a ſociety or community of clergymen belonging to the cathedrals and collegiate churches.

It was in the eighth century that the body of canons began to be called a chapter. The chapter of the canons of a cathedral were a ſtanding council to the biſhop, and, during the vacancy of the ſee, had the juriſdiction of the dioceſe. In the earlier ages, the biſhop was head of the chapter; afterwards abbots and other dignitaries, as deans, provoſts, treaſurers, &c. were preferred to this diſtinction. The deans and chapters had the privilege of chooſing the biſhops in England; but Henry VIII. got this power veſted in the crown: and as the ſame prince expelled the monks from the cathedrals, and placed ſecular canons in their room, thoſe he thus regulated were called deans and chapters of the new foundation; ſuch are Canterbury, Winchеſter, Ely, Carliſle, &c. See Dean.

Chapter ‖ Character.

Chapter, in matters in literature, a diviſion in a book for keeping the ſubject treated of more clear and diſtinct.

CHAR, in ichthyology, a ſpecies of Salmo.

CHARA, in botany: A genus of the monandria order, belonging to the monœcia claſs of plants. There is neither male calyx nor corolla; and the anthera is placed under the germen. The female calyx is tetraphyllous; no corolla; the ſtigma quinquefid, with one roundiſh ſeed.

CHARABON, a ſea-port town on the northern coaſt of the iſland of Java in the Eaſt-Indies; E. Long. 10. 8. S. Lat. 6.

CHARACENE, the moſt ſouthern part of Suſiana, a province of Perſia, lying on the Perſian gulph, between the Tigris and the Eulæus. It was ſo named from the city of Charax, called firſt Alexandria, from its founder Alexander the Great; afterwards Antiochia, from Antiochus V. king of Syria, who repaired and beautified it; and laſtly, Charax Spaſinæ, or Paſinæ, that is the Mole of the Spaſines, an Arabian king of that name having ſecured it againſt the overflowing of the Tigris, by a high bank or mole, extending three miles, which ſerved as a fence to all that country. Dionyſius Periegetes, and Iſidorus, author of the Parthicæ Manſiones, were both natives of this city. The ſmall diſtrict of Characene was ſeized by Paſines, the ſon of Sogdonacus, king of the neighbouring-Arabs, during the troubles of Syria, and erected into a kingdom. Lucian calls him Hyſpaſines, and adds, that he ruled over the Characeni and the neighbouring people: he died in the 85th year of his age. The other kings of this country we find mentioned by the ancients are, Teræus, who died in the 92d year of his age, and after him Artabazus the ſeventh, as Lucian informs us, who was driven from the throne by his own ſubjects, but reſtored by the Parthians. And this is all we find in the ancients relating to the kings of Characene.

CHARACTER, in a general ſenſe, ſignifies a mark or figure, drawn on paper, metal, ſtone, or other matter, with a pen, graver, chiſſel, or other inſtrument, to ſignify or denote any thing. The word is Greek, χαρακτηρ, formed from the verb, χαρασσειν, *inſculpere*, " to ingrave, impreſs," &c.

The various kinds of characters may be reduced to three heads, viz. *Literal Characters*, *Numeral Characters*, and *Abbreviations*.

I. *Literal* Character, is a letter of the alphabet, ſerving to indicate ſome articulate ſound, expreſſive of ſome idea or conception of the mind. See Alphabet.

1. Theſe may be divided, with regard to their nature and uſe, into *Nominal Characters*, or thoſe we properly call *letters*; which ſerve to expreſs the names of things: See Letter. *Real Characters*; thoſe that inſtead of names expreſs things and ideas: See Idea, &c. *Emblematical* or *Symbolical Characters*: which have this in common with real ones, that they expreſs the things themſelves; but have this further, that they in ſome meaſure perſonate them, and exhibit their form: ſuch are the hieroglyphics of the ancient Egyptians. See Hieroglyphic, Symbol, &c.

2. *Literal* Characters may be again divided, with regard

Characters regard to their invention and uſe, into *particular* and *general* or *univerſal*.

Particular CHARACTERS, are thoſe peculiar to this or that nation. Such are the Roman, Italic, Greek, Hebrew, Arabic, Gothic, Chineſe, &c. *characters*. See HEBREW, GOTHIC, CHINESE, &c.

Univerſal CHARACTERS, are alſo *real characters*, and make what ſome authors call a *Philoſophical Language*.

That diverſity of *characters* uſed by the ſeveral nations to expreſs the ſame idea, is found the chief obſtacle to the advancement of learning: to remove this, ſeveral authors have taken occaſion to propoſe plans of *characters* that ſhould be univerſal, and which each people ſhould read in their own language. The *character* here is to be real, not nominal: to expreſs things and notions; not, as the common ones, letters or ſounds: yet to be mute, like letters, and arbitrary; not emblematical, like hieroglyphics.

Thus, every nation ſhould retain its own language, yet every one underſtand that of each other, without learning it; only by ſeeing a real or univerſal *character*, which ſhould ſignify the ſame things to all people, by what ſounds ſoever each expreſs it in their particular idiom. For inſtance, by ſeeing the *character* deſtined to ſignify *to drink*, an Engliſhman ſhould read *to drink*; a Frenchman, *boire*; a Latin, *bibere*; a Greek, πινειν; a Jew, שתה; a German, *trincken*; and ſo of the reſt: in the ſame manner as ſeeing a horſe, each people expreſſes it after their own manner; but all mean the ſame animal.

This real *character* is no chimera; the Chineſe and Japoneſe have already ſomething like it. They have a common *character* which each of thoſe nations underſtand alike in their ſeveral languages; though they pronounce them with ſuch different ſounds, that they do not underſtand one another in ſpeaking.

The firſt and moſt conſiderable attempts for a *real character*, or philoſophical language, in Europe, are thoſe of biſhop Wilkins and Dalgarme: but theſe, with how much art ſoever they were contrived, have yet proved ineffectual.

M. Leibnitz had ſome thoughts the ſame way; he thinks thoſe great men did not hit the right method. It was probable, indeed, that by their means, people, who do not underſtand one another, might eaſily have a commerce together; but they have not hit on true *real characters*.

According to him, the *characters* ſhould reſemble thoſe uſed in Algebra: which, in effect, are very ſimple, yet very expreſſive; without any thing ſuperfluous or equivocal; and contain all the varieties required.

The *real character* of biſhop Wilkins has its juſt applauſe: Dr Hook recommends it on his own knowledge and experience, as a moſt excellent ſcheme; and to engage the world to the ſtudy thereof, publiſhes ſome fine inventions of his own therein.

M. Leibnitz tells us, he had under conſideration an *alphabet of human thoughts*; in order to a new philoſophical language, on his own ſcheme: but his death prevented its being brought to maturity.

M. Lodwic, in the *philoſophical tranſactions*, gives us a plan of *an univerſal alphabet* or *character* of another kind: this was to contain an enumeration of all ſuch ſingle ſounds, or letters, as are uſed in any language; Characters. by means whereof, people ſhould be enabled to pronounce truly and readily any language; to deſcribe the pronunciation of any language that ſhall be pronounced in their hearing, ſo as others accuſtomed to this language, though they had never heard the language pronounced, ſhall at firſt be able truly to pronounce it: and, laſtly, this *character* to ſerve as a ſtandard to perpetuate the ſounds of any language. In the Journal Literaire, *an.* 1720, we have a very ingenious project for an univerſal *character*. The author, after obviating the objections that might be made againſt the feaſibleneſs of ſuch ſchemes in the general, propoſes his own: his *characters* are to be the common Arabic, or numeral figures. The combinations of theſe nine are ſufficient to expreſs diſtinctly an incredible quantity of numbers, much more than we ſhall need terms to ſignify our actions, goods, evils, duties, paſſions, &c. Thus is all the trouble of framing and learning any new *character* at once ſaved; the Arabic figures having already all the univerſality required.

The advantages are immenſe. For, 1*mo*, We have here a ſtable, faithful interpreter; never to be corrupted or changed, as the popular languages continually are. 2*do*, Whereas the difficulty of pronouncing a foreign language is ſueh as uſually gives the learner the greateſt trouble, and there are even ſome ſounds which foreigners never attain to; in the *character* here propoſed, this difficulty has no place: every nation is to pronounce them according to the particular pronunciation that already obtains among them. All the difficulty is, the accuſtoming the pen and the eye to affix certain notions to *characters* that do not, at firſt ſight, exhibit them. But this trouble is no more than we find in the ſtudy of any language whatever.

The inflections of words are here to be expreſſed by the common letters. For inſtance, the ſame *character* ſhall expreſs a *filly* or a *colt*, a *horſe* or a *mare*, an *old horſe* or an *old mare*, as accompanied with this or that diſtinctive letter, which ſhall ſhow the ſex, youth, maturity, or old age: a letter alſo to expreſs the bigneſs or ſize of things; thus *v. g.* a man with this or that letter, to ſignify a *great man*, or a *little man*, &c.

The uſe of theſe letters belongs to the grammar; which, once well underſtood, would abridge the vocabulary exceedingly. An advantage of this grammar is, that it would only have one declenſion and one conjugation: thoſe numerous anomalies of grammarians are exceeding troubleſome; and ariſe hence, that the common languages are governed by the populace, who never reaſon on what is beſt: but in the *character* here propoſed, men of ſenſe having the introduction of it, would have a new ground, whereon to build regularly.

But the difficulty is not in inventing the moſt ſimple, eaſy, and commodious *character*, but in engaging the ſeveral nations to uſe it; there being nothing they agree leſs in, than the underſtanding and purſuing their common intereſt.

3. Literal characters may again be divided, with reſpect to the nations among whom they have been invented, into Greek characters, Roman characters, Hebrew characters, &c. The Latin character now uſed through all Europe, was formed from the Greek, as the Greek was from the Phœnician; and the Phœnician,

Characters. as well as the Chaldee, Syriac, and Arabic characters, were formed from the ancient Hebrew, which ſubſiſted till the Babyloniſh captivity; for after that event the character of the Aſſyrians, which is the ſquare Hebrew now in uſe, prevailed, the ancient being only found on ſome Hebrew medals, commonly called Samaritan medals. It was in 1091 that the Gothic characters, invented by Ulfilas, were aboliſhed, and the Latin ones eſtabliſhed in their room.

Medalliſts obſerve, that the Greek character, conſiſting only of majuſcule letters, has preſerved its uniformity on all medals, as low as the time of Gallienus, from which time it appears ſomewhat weaker and rounder: from the time of Conſtantine to Michael we find only Latin characters: after Michael, the Greek characters recommence; but from that time they began to alter with the language, which was a mixture of Greek and Latin. The Latin medals preſerve both their character and language as low as the tranſlation of the ſeat of the empire to Conſtantinople: towards the time of Decius the character began to loſe its roundneſs and beauty; ſome time after, it retrieved, and ſubſiſted tolerably till the time of Juſtin, when it degenerated gradually into the Gothic. The rounder, then, and better formed a character is upon a medal, the fairer pretence it has to antiquity.

II. *Numeral* CHARACTERS, or characters uſed to expreſs numbers, are either letters or figures.

The Arabic character, called alſo the common one, becauſe it is uſed almoſt throughout Europe in all ſorts of calculations, conſiſts of theſe ten digits 1, 2, 3, 4, 5, 6, 7, 8, 9, 0.

The Roman numeral character conſiſts of ſeven majuſcule letters of the Roman alphabet, *viz.* I, V, X, L, C, D, M. The I denotes one, V five, X ten, L fifty, C a hundred, D five hundred, and M a thouſand. The I repeated twice makes two, II; thrice, three, III: four is expreſſed thus IV, as I before V or X takes an unit from the number expreſſed by theſe letters. To expreſs ſix, an I is added to a V, VI; for ſeven, two, VII; and for eight, three, VIII. nine is epreſſed by an I before X, thus IX. The ſame remark may be made of the X before L or C, except that the diminution is by tens; thus, XL denotes forty, XC ninety, and LX ſixty. The C before D or M diminiſhes each by a hundred. The number five hundred is ſometimes expreſſed by an I before a C inverted, thus, IↃ; and inſtead of M, which ſignifies a thouſand, an I is ſometimes uſed between two C's, the one direct, and the other inverted, thus CIↃ. The addition of C and Ↄ before or after raiſes CIↃ by tens, thus, CCIↃↃ expreſſes ten thouſand, CCCIↃↃↃ, a hundred thouſand. The Romans alſo expreſſed any number of thouſands by a line drawn over any numeral leſs than a thouſand; thus V̄ denotes five thouſand, L̄X̄, ſixty thouſand: ſo likewiſe M̄ is one million, M̄M̄ is two millions, &c.

The Greeks had three ways of expreſſing numbers: 1. Every letter, according to its place in the alphabet, denoted a number, from α, one, to ω, twenty-four. 2. The alphabet was divided into eight units, α one, β two, three, *&c.*; into θ eight tens, ι ten, κ twenty λ thirty, *&c.*; and eight hundreds, ρ one hundred, σ two hundred, τ three hundred, *&c.* 3. I ſtood for one, Π five, Δ ten, H a hundred, X a thouſand, M ten thouſand; and when the letter Π incloſed any of theſe, except ι, it ſhowed the incloſed letter to be five times its value: as Π̄ fifty, H̄ five hundred, X̄ five thouſand, M̄ fifty thouſand. Characters.

The French CHARACTER uſed in the chamber of accounts, and by perſons concerned in the management of the revenue, is, properly ſpeaking, nothing elſe than the Roman numerals, in letters that are not majuſcule: thus, inſtead of expreſſing fifty-ſix by LVI, they denote it by ſmaller characters lvj.

III. CHARACTERS of Abbreviations, &c. in ſeveral of the arts, are ſymbols contrived for the more conciſe and immediate conveyance of the knowledge of things. For the

Characters uſed in Algebra. See ALGEBRA, Introduction.

Characters uſed in Aſtronomy, viz.

Of the Planets. See Plate LXII. fig. 19.

Of the Signs. Plate LXXVI. fig. 158. & LXXXV. fig. 204.

Of the aſpects.

☌ or S Conjunction	△ Trine
SS Semiſextile	Bq Biquintile
* Sextile	Vc Quincunx
Q Quintile	☍ Oppoſition
□ Quartile	☊ Dragon's head
Td Tredecile	☋ Dragon's tail

Of time.

A. M. *ante meridiem*, before the ſun comes upon the meridian.

O. or N. noon.

P. M. *poſt meridiem*, when the ſun is paſt the meridian.

Characters in Commerce.

Dº *ditto*, the ſame	Rº *recto* } *folio*
Nº *numero*, or number	Vº *vero* } *folio*
Fº *folio*, or page	
C or ℔ hundred weight, or 112 pounds	ℒ or *l.* pounds ſterling
	pʳ *per*, or by, as pʳ *ann.* by the year, pʳ *cent.*
qʳˢ quarters	Rˣ rixdollar
S or *s* ſhillings	Dᵗ ducat
d pence or deniers	P. S. poſtſcript; *&c.*
℔ pound weight.	

Characters in Chemiſtry. See Pl. cxxxii. & cxxxiii.

Characters in Geometry and Trigonometry.

∥ the character of parallelism	∨ equiangular, or ſimilar
△ triangle	⩥ equilateral
□ ſquare	∠ an angle
▯ ▭ rectangle	∠ right angle
⊙ circle	⊥ perpendicular

° denotes a degree; thus 45° implies 45 degrees.

′ Denotes a minute; thus 50′, is 50 minutes. ″, ‴, ⁗, Denote ſeconds, thirds, and fourths: and the ſame characters are uſed where the progreſſions are by tens, as it is here by ſixties.

Characters in Grammar, Rhetoric, Poetry, &c.

( ) parentheſis	D. D. doctur in divinity
[ ] crotchet	
- hyphen	V. D. M. miniſter of the word of God.
' apoſtrophe	
' emphaſis or accent	LL. D. doctor of laws
˘ breve	J. V. D. doctor of civil and canon law
¨ dialyſis	
^ caret and circumflex.	" quotation
† ‡ and * references	M. D. doctor in phyſic

Characters

§ ſection or diviſion
¶ paragraph
F. R. S. fellow of the royal ſociety.
A. M. maſter of arts
A. B. bachelor of arts

For the other characters uſed in grammar, ſee COMMA, COLON, SEMICOLON, &c.

CHARACTERS among the ancient Lawyers, and in ancient Inſcriptions.

§ paragraphs
ff digeſts
Scto. ſenatus conſulto
E. extra
S. P. Q. R. ſenatus populuſque Romanus
P. P. pater patriæ
C. code
C. C. conſules
T. titulus
P. P. D. D. propria pecunia dedicavit
D. D. M. dono dedit monumentum.

CHARACTERS in Medicine and Pharmacy.

℞ recipe
ā, āā, or ana, of each alike
℔ a pound, or a pint
℥ an ounce
ʒ a drachm
℈ a ſcruple
gr. grains
ſs or ſs half of any thing
cong. congius, a gallon,
coch. cochleare, a ſpoonful
M. manipulus, a handful
P. a pugil
P. Æ. equal quantities
S. A. according to art
q. s. a ſufficient quantity
q. pl. as much as you pleaſe
P. P. pulvis patrum, the Jeſuit's bark.

CHARACTERS upon Tomb-ſtones.

S. V. Siſte viator, *i. e.* Stop traveller.
M. S. Memoriæ ſacrum, *i. e.* Sacred to the memory.
D. M. Diis manibus.
J. H. S. Jeſus.
X. P. a character found in the catacombs, about the meaning of which authors are not agreed.

CHARACTERS uſed in Muſic, and of Muſical Notes with their proportions, are as follow.

= character of a large	8	crotchet	1/4
𝅝 a long	4	quaver	1/8
𝅜 a breve	2	ſemiquaver	1/16
𝅗𝅥 a ſemibreve	1	demiſemiquaver	1/32
𝅗𝅥 a minim	1/2		

♯ character of a ſharp note: this character at the beginning of a line or ſpace, denotes that all the notes in that line are to be taken a ſemitone higher than in the natural ſeries; and the ſame affects all the octaves above and below, though not marked; but when prefixed to any particular note, it ſhows that note alone to be taken a ſemitone higher than it would be without ſuch character.

♭ or *b*, character of a flat note: this is the contrary to the other above; that is, a ſemitone lower.

♮ character of a natural note: when in a line or ſeries of artificial notes, marked at the beginning *b* or ♯, the natural note happens to be required, it is denoted by this character.

𝄞 character of the treble cliff.
𝄡 character of the mean cliff.
𝄢 baſs cliff.

2/2, or 2/4 characters of common duple time, ſignifying the meaſure of two crotchets to be equal tu two notes, of which four make a ſemibreve.

C 𝄵 𝅮, characters that diſtinguiſh the movements of common time, the firſt implying ſlow, the ſecond quick, and the third very quick. Character.

3/2, 3/4, 3/8, 3/16, characters of ſimple triple time, the meaſure of which is equal to three ſemibreves, or to three minims.

6/8, 6/16, or 6/32, characters of a mixed triple time, where the meaſure is equal to ſix crotchets, or ſix quavers.

9/4, or 9/8, or 9/16, or 9/32, or 9/64, characters of compound triple time.

12/16, 12/32, 12/64, or 12/128, or 12/256, characters of that ſpecies of triple time called the meaſure of twelve times.

CHARACTER, in human life, that which is peculiar in the manners of any perſon, and diſtinguiſhes him from all others.

Good CHARACTER is particularly applied to that conduct which is regulated by virtue and religion; in an inferior but very common ſenſe, it is underſtood of mere honeſty of dealing between man and man. The importance of a good character in the commerce of life ſeems to be univerſally acknowledged.—To thoſe who are to make their own way either to wealth or honours, a good character is uſually no leſs neceſſary than addreſs and abilities. To tranſcribe the obſervation of an elegant moraliſt: Though human nature is degenerate, and corrupts itſelf ſtill more by its own inventions; yet it uſually retains to the laſt an eſteem for excellence. But even if we are arrived at ſuch an extreme degree of depravity as to have loſt our native reverence for virtue; yet a regard to our own intereſt and ſafety, which we ſeldom loſe, will lead us to apply for aid, in all important tranſactions, to men whoſe integrity is unimpeached. When we chooſe an aſſiſtant, a partner, a ſervant, our firſt enquiry is concerning his character. When we have occaſion for a counſellor or attorney, a phyſician or apothecary, whatever we may be ourſelves, we always chooſe to truſt our property and perſons to men of the beſt character. When we fix on the tradeſmen who are to ſupply us with neceſſaries, we are not determined by the ſign of the lamb, or the wolf, or the fox; nor by a ſhop fitted up in the moſt elegant taſte, but by the faireſt reputation. Look into a daily newſpaper, and you will ſee, from the higheſt to the loweſt rank, how important the characters of the employed appear to the employers. After the advertiſement has enumerated the qualities required in the perſon wantrd, there conſtantly follows, that none need apply who cannot bring an undeniable character. Offer yourſelf as a candidate for a ſeat in parliament, be promoted to honour and emolument, or in any reſpect attract the attention of mankind upon yourſelf, and, if you are vulnerable in your character, you will be deeply wounded. This is a general teſtimony in favour of honeſty, which no writings and no practices can poſſibly refute.

Young men, therefore, whoſe characters are yet unfixed, and who, conſequently, may render them juſt ſuch as they wiſh, ought to pay great attention to the firſt ſteps which they take on entrance into life. They are uſually careleſs and inattentive to this object. They purſue their own plans with ardour, and neglect the opinions which others entertain of them. By ſome thoughtleſs action or expreſſion, they ſuffer a mark to be impreſſed upon them, which ſcarcely any ſubſequent merit can entirely eraſe. Every man will find ſome perſons,

Character. fons, who, though they are not profeſſed enemies, yet view him with an envious or a jealous eye, and who will gladly revive any tale to which truth has given the ſlighteſt foundation.

In this turbulent and confuſed ſcene, where our words and actions are often miſunderſtood, and oftener miſrepreſented, it is indeed difficult even for innocence and integrity to avoid reproach, abuſe, contempt, and hatred. Theſe not only hurt our intereſt and impede our advancement in life, but ſorely afflict the feelings of a tender and delicate mind. It is then the part of wiſdom firſt to do every thing in our power to preſerve an irreproachable character, and then to let our happineſs depend chiefly on the approbation of our own conſciences, and on the advancement of our intereſt in a world where liars ſhall not be believed, and where ſlanderers ſhall receive countenance from none but him who, in Greek, is called, by way of eminence, *Diabolus*, or the calumniator.

Character, in poetry, particularly the epopee and drama, is the reſult of the manners or peculiarities by which each perſon is diſtinguiſhed from others.

The poetical character, ſays Me Boſſu, is not properly any particular virtue or quality, but a compoſition of ſeveral which are mixed together, in a different degree, according to the neceſſity of the fable and the unity of the action: there muſt be one, however, to reign over all the reſt; and this muſt be found, in ſome degree, in every part. The firſt quality in Achilles, is wrath; in Ulyſſes, diſſimulation; and in Æneas, mildneſs: but as theſe characters cannot be alone, they muſt be accompanied with others to embelliſh them, as far as they are capable, either by hiding their defects, as in the anger of Achilles, which is palliated by extraordinary valour; or by making them centre in ſome ſolid virtue, as in Ulyſſes, whoſe diſſimulation makes a part of his prudence; and in Æneas, whoſe mildneſs is employed in a ſubmiſſion to the will of the gods. In the making up of which union, it is to be obſerved, the poets have joined together ſuch qualities as are by nature the moſt compatible; valour with anger, piety with mildneſs, and prudence with diſſimulation. The fable required prudence in Ulyſſes, and piety in Æneas; in this, therefore, the poets were not left to their choice: but Homer might have made Achilles a coward without abating any thing from the juſtneſs of his fable: ſo that it was the neceſſity of adorning his character that obliged him to make him valiant: the character, then, of a hero in the epic poem, is compounded of three ſorts of qualities; the firſt eſſential to the fable; the ſecond, embelliſhments of the firſt; and valour, which ſuſtains the other two, makes the third.

Unity of character is as neceſſary as the unity of the fable. For this purpoſe a perſon ſhould be the ſame from the beginning to the end: not that he is always to betray the ſame ſentiments, or one paſſion; but that he ſhould never ſpeak nor act inconſiſtently with his fundamental character. For inſtance, the weak may ſometimes ſally into a warmth, and the breaſt of the paſſionate be calm, a change which often introduces in the drama a very affecting variety; but if the natural diſpoſition of the former was to be repreſented as boiſterous, and that of the latter mild and ſoft, they would both act out of character, and contradict their perſons.

True characters are ſuch as we truly and really ſee in men, or may exiſt without any contradiction to nature: no man queſtions but there have been men as generous and as good as Æneas, as paſſionate and as violent as Achilles, as prudent and wiſe as Ulyſſes, as impious and atheiſtical as Mezentius, and as amorous and paſſionate as Dido; all theſe characters, therefore, are true, and nothing but juſt imitations of nature. On the contrary, a character is falſe when an author ſo feigns it, that one can ſee nothing like it in the order of nature wherein he deſigns it ſhall ſtand: theſe characters ſhould be wholly excluded from a poem, becauſe tranſgreſſing the bounds of probability and reaſon, they meet with no belief from the readers; they are fictions of the poet's brain, not imitations of nature; and yet all poetry conſiſts in an imitation of nature. Charade.

Character is alſo uſed for certain viſible qualities, which claim reſpect or reverence to thoſe veſted therewith.—The majeſty of kings gives them a character which procures reſpect from the people. A biſhop ſhould ſuſtain his character by learning and ſolid piety, rather than by worldly luſtre, &c. The law of nations ſecures the character of an ambaſſador from all inſults.

Character, among naturaliſts, is ſynonymous with the definition of the genera of animals, plants, &c.

CHARACTERISTIC, in the general, is that which characteriſes a thing or perſon, i. e. conſtitutes its character, whereby it is diſtinguiſhed. See Character.

Characteristic, is peculiarly uſed in grammar, for the principal letter of a word: which is preſerved in moſt of its tenſes and moods, its derivatives and compounds.

Characteristic of a Logarithm, is its index or exponent. See Logarithm.

Characteristic Triangle of a Curve, in the higher geometry, is a rectilinear right-angled triangle, whoſe hypothenuſe makes a part of the curve, not ſenſibly different from a right line. It is ſo called, becauſe curve lines are uſed to be diſtinguiſhed hereby. See Curve.

CHARADE, the name of a new ſpecies of compoſition or literary amuſement. It owes its name to the idler who invented it. Its ſubject muſt be a word of two ſyllables, each forming a diſtinct word; and theſe two ſyllables are to be concealed in an enigmatical deſcription, firſt ſeparately, and then together. The exerciſe of charades, if not greatly inſtructive, is at leaſt innocent and amuſing. At all events, as it has made its way into every faſhionable circle, and has employed even Garrick, it will ſcarcely be deemed unworthy of attention. The fillineſſes indeed of moſt that have appeared in the papers under this title, are not only deſtitute of all pleaſantry in the ſtating, but are formed in general of words utterly unfit for the purpoſe. They have therefore been treated with the contempt they deſerved. In trifles of this nature, inaccuracy is without excuſe. The following examples therefore are at leaſt free from this blemiſh.

I.

My *firſt*, however here abuſed,
Deſigns the ſex alone;
In Cambria, ſuch is cuſtom's pow'r,
'Tis Jenkin, John, or Joan.

My

Charade, Charadrius.

My *ſecond* oft is loudly call'd,
When men prepare to fiſt it:
Its name delights the female ear;
Its force, may none reſiſt it!
It binds the weak, it binds the ſtrong,
The wealthy and the poor;
Still 'tis to joy a paſſport deem'd,
For ſullied fame a cure.
It may inſure an age of bliſs,
Yet miſ'ries oft attend it;
To fingers, ears, and noſes too,
Its various lords commend it.
My *whole* may chance to make one drink,
Though vended in a fiſh-ſhop;
'Tis now the monarch of the ſeas,
And has been an archbiſhop. *Her-ring.*

II.

My *firſt*, when a Frenchman is learning Engliſh, ſerves him to ſwear by. My *ſecond*, is either hay or corn. My *whole*, is the delight of the preſent age, and will be the admiration of poſterity. *Gar-rick.*

III.

My *firſt*, is plowed for various reaſons, and grain is frequently buried in it to little purpoſe. My *ſecond*, is neither riches nor honours; yet the former would generally be given for it, and the latter is often taſteleſs without it. My *whole* applies equally to ſpring, ſummer, autumn, and winter; and both fiſh and fleſh, praiſe and cenſure, mirth and melancholy, are the better for being in it. *Sea-ſon.*

IV.

My *firſt*, with the moſt rooted antipathy to a Frenchman, prides himſelf, whenever they meet, upon ſticking cloſe to his jacket. My *ſecond* has many virtues, nor is it its leaſt that it gives name to my firſt. My *whole*, may I never catch! *Tar-tar.*

V.

My *firſt* is one of England's prime boaſts; it rejuices the ear of a horſe, and anguiſhes the toe of a man. My *ſecond*, when brick, is good; when ſtone, better; when *wooden*, beſt of all. My *whole* is famous alike for rottenneſs and tin. *Corn-wall.*

VI.

My *firſt* is called bad or good,
May pleaſure or offend ye;
My *ſecond*, in a thirſty mood,
May very much befriend ye.
My *whole*, tho' ſtyled a "cruel word,"
May yet appear a kind one;
It often may with joy be heard,
With tears may often blind one. *Fare-well.*

VII.

My *firſt* is equally friendly to the thief and the lover, the toper and the ſtudent. My *ſecond* is light's oppoſite: yet they are frequently ſeen hand in hand; and their union, if judicious, gives much pleaſure. My *whole*, is tempting to the touch, grateful to the ſight, fatal to the taſte. *Night-ſhade.*

CHARADRIUS, in ornithology, a genus belonging to the order of grallæ. The beak is cylindrical and blunt; the noſtrils are linear; and the feet have three toes. Charadrius.

1. The Hiaticula, or Sea-lark of Ray, has a black breaſt; a white ſtreak along the front; the top of the head is brown; and the legs and beak are reddiſh. It is found on the ſhores of Europe and America. They frequent our ſhores in the ſummer, but are not numerous. They lay four eggs, of a dull whitiſh colour, ſparingly ſprinkled with black: at the approach of winter they diſappear.

2. The Alexandrinus, or Alexandrian Dotterel, is of a browniſh colour, with the forehead, collar, and belly white; the prime tail-feathers on both ſides are white; and the legs are black. It is about the ſize of a lark, and lives upon inſects.

3. The Vociferus, or Noiſy Plover of Cateſby, has black ſtreaks on the breaſt, neck, forehead, and cheeks; and the feet are yellow. It is a native of North America.

4. The Ægyptius has a black ſtreak on the breaſt, white eye-brows, the prime tail-feathers ſtreaked with black at the points, and bluiſh legs. It is found in the plains of Egypt, and feeds on inſects.

5. The Morinellus has an iron-coloured breaſt, a ſmall white ſtreak on the breaſt and eye-brows, and black legs. It is the Dotterel of Ray, and a native of Europe. They are found in Cambridgeſhire, Lincolnſhire, and Derbyſhire: on Lincoln-heath, and on the moors of Derbyſhire, they are migratory; appearing there in ſmall flocks of eight or ten only in the latter end of April, and ſtay there all May and part of June, during which time they are very fat, and much eſteemed for their delicate flavour. In the months of April and September, they are taken on the Wiltſhire and Berkſhire downs: they are alſo found in the beginning of the former month on the ſea-ſide at Meales in Lancaſhire, and continue there about three weeks, attending the barley fallows: from thence they remove northward to a place called *Leyton Hawes*, and ſtay there about a fortnight; but where they breed, or where they reſide during the winter, we have not been able to diſcover. They are reckoned very fooliſh birds, ſo that a dull fellow is proverbially ſtyled a *dotterel*. They were alſo believed to mimic the action of the fowler, ſtretching out a wing when he ſtretches out an arm, &c. continuing their imitation, regardleſs of the net that is ſpreading for them.

6. The Apricarius has a black belly; the body is brown, and variegated with white and yellow ſpots; and the legs are aſh-coloured. It is the ſpotted Plover of Edwards, and a native of Canada.

7. The Pluvialis is black above, with green ſpots, white underneath, and the feet are aſh-coloured. It is the green plover of Ray, and is a native of Europe. They lay four eggs, ſharply pointed at the leſſer end, of a dirty white colour, and irregularly marked, eſpecially at the thicker end, with blotches and ſpots. It breeds on ſeveral of our unfrequented mountains; and is very common on thoſe of the iſle of Rum, and others of the leſſer Hebrides. They make a ſhrill whiſtling noiſe; and may be enticed within a ſhot by a ſkilful imitator of the note.

8. The Torquatus has a black breaſt, and a white front; the top of the head and the collar is black; and the beak and feet are bluiſh. It is a native of St Domingo.

9. The Calidris has black feet, and a black bill; the rump is greyiſh; and the body is pure white below. It frequents the ſhores of Europe.

10. The Œdicnemus or Stone-curlew of Ray, is of a grey colour, with two of the prime wing-feathers black, but white in the middle: it has a ſharp bill,

Charadrius || Charaims.

and aſh-coloured feet; and is about the ſize of a crow. In Hampſhire, Norfolk, and on Lincoln-heath, it is called the ſtone-curlew, from a ſimilarity of colours to the curlew. It breeds in ſome places in rabbit-hurrows; alſo among ſtones on the bare ground, laying two eggs of a copper-colour ſpotted with a darker red. The young run ſoon after they are hatched. Theſe birds feed in the night on worms and caterpillars: they will alſo eat toads, and will catch mice. They inhabit fallow lands and downs; affect dry places, never being ſeen near any waters. When they fly, they extend their legs ſtraight out behind: are very ſhy birds; run far before they take to wing; and often ſquat: are generally ſeen ſingle; and are eſteemed very delicate food.—Haſſelquiſt informs us, that this bird is alſo met with in Lower Egypt, in the Acacia groves, near the villages Abuſir and Sackhara, near the ſepulchres of the ancient Egyptians, and in the deſarts. The Arabians call it Kervan. It has a ſhrill voice, ſomewhat reſembling that of the black woodpecker, which it raiſes and lowers ſucceſſively, uttering agreeable notes. The Turks and Egyptians value it much, if they can get it alive; and keep it in a cage for the ſake of its ſinging. Its fleſh is hard, and of a very good taſte, inclined to aromatic. It is a very voracious bird, catching and devouring rats and mice, which abound in Egypt. It ſeldom drinks; and when taken young, and kept in a cage in Egypt, they give it no water for ſeveral months, but feed it with freſh meat macerated in water, which it devours very greedily. It is found in deſarts, and is therefore accuſtomed to be without water.

11. The Himantopus is white below, with a black back, and a long black bill; the feet are red, and very long. It is the autumnal dotterel of the Engliſh authors, and frequents the ſea-ſhores of Europe. It is alſo found in the lakes of Egypt in the month of October.

12. The Spinoſus, armed Dotterel, or Lapwing, has black breaſt, legs, and wings; it has a creſt on the hinder part of the head. It is of the ſize of a pigeon; the French call it *dominicanus*, from the reſemblance it has to the dreſs of a Dominican monk. It is a native of Egypt.

13. The New-Zealand plover, has the forepart of the head, taking in the eye, chin, and throat, black, paſſing backwards in a collar at the hind head; all the back part of the head, behind the eye, greeniſh aſh-colour; theſe two colours divided by white: the plumage on the upper parts of the body is the ſame colour as the back of the head: the quills and tail are duſky: the laſt order of coverts is white for ſome part of their length, forming a bar on the wing: the under parts of the body are white; and the legs red. It inhabits Queen Charlotte's ſound; where it is known by the name of *Doadooroa-attoo*. See Plate CXXII. There are 12 or 13 more ſpecies.

CHARAG, the tribute which Chriſtians and Jews pay to the grand ſignior.

It conſiſts of ten, twelve, or fifteen francs *per annum*, according to the eſtate of the party. Men begin to pay it at nine or at ſixteen years old; women are diſpenſed with, as alſo prieſts, rabbins, and religious.

CHARAIMS, a ſect of the Jews in Egypt. They live by themſelves, and have a ſeparate ſynagogue; and as the other Jews are remarkable for their eyes, ſo are thoſe for their large noſes, which run through all the families of this ſect. Theſe are the ancient Eſſenes. They ſtrictly obſerve the five books of Moſes, according to the letter; and receive no written traditions. It is ſaid that the other Jews would join the *Charaims*; but thoſe not having obſerved the exact rules of the law with regard to divorces, theſe think they live in adultery.

Charaſis || Charcoal.

CHARANTIA, in botany. See MOMORDICA.

CHARBON, in the manege, that little black ſpot or mark which remains after a large ſpot in the cavity of the corner teeth of a horſe: about the ſeventh or eighth year, when the cavity fills up, the tooth being ſmooth and equal, it is ſaid to be raſed.

CHARCAS, the ſouthern diviſion of Peru in South America, remarkable for the ſilver mines of Potoſi.

CHARCOAL, a ſort of artificial coal, or fuel, conſiſting of wood half burnt; chiefly uſed where a clear ſtrong fire, without ſmoke, is required; the humidity of the wood being here moſtly diſſipated, and exhaled in the fire wherein it is prepared.

The microſcope diſcovers a ſurpriſing number of pores in charcoal: they are diſpoſed in order, and traverſe it lengthwiſe; ſo that there is no piece of charcoal, how long ſoever, but may be eaſily blown through. If a piece be broken pretty ſhort, it may be ſeen through with a microſcope. In a range the 18th part of an inch long, Dr Hook reckoned 150 pores; whence he concludes, that in a charcoal of an inch diameter, there are not leſs than 5,724,000 pores. It is to this prodigious number of pores, that the blackneſs of charcoal is owing: for the rays of light ſtriking on the charcoal, are received and abſorbed in its pores, inſtead of being reflected; whence the body muſt of neceſſity appear black, blackneſs in a body being no more than a want of reflection. Charcoal was anciently uſed to diſtinguiſh the bounds of eſtates and inheritances; as being incorruptible, when let very deep within ground. In effect, it preſerves itſelf ſo long, that there are many pieces found entire in the ancient tombs of the northern nations. M. Dodart ſays, there is charcoal made of corn, probably as old as the days of Cæſar: he adds, that it has kept ſo well, that the wheat may be ſtill diſtinguiſhed from the rye; which he looks on as proof of its incorruptibility.

The operation of charring wood, is performed in the following manner: The wood intended for this purpoſe is cut into proper lengths, and piled up in heaps near the place where the charcoal is intended to be made: when a ſufficient quantity of wood is thus prepared, they begin conſtructing their ſtacks, for which there are three methods. The firſt is this: They level a proper ſpot of ground, of about twelve or fifteen feet in diameter, near the piles of wood; in the centre of this area a large billet of wood, ſplit acroſs at one end and pointed at the other, is fixed with its pointed extremity in the earth, and two pieces of wood inſerted through the cleſts of the other end, forming four right-angles; againſt theſe croſs pieces four other billets of wood are placed, one end on the ground, and the other leaning againſt the angles. This being finiſhed, a number of large and ſtraight billets

Charcoal. billets are laid on the ground to form a floor, each being as it were the radius of the circular area: on this floor a proper quantity of bruſh or ſmall wood is ſtrewed, in order to fill up the interſtices, when the floor will be compleate; and in order to keep the billets in the ſame order and poſition in which they were firſt arranged, pegs or ſtumps are driven into the ground in the circumference of the circle, about a foot diſtant from one another: upon this floor a ſtage is built with billets ſet upon one end, but ſomething inclining towards the central billet; and on the tops of theſe another floor is laid in a horizontal direction, but of ſhorter billets, as the whole is, when finiſhed, to form a cone.

The ſecond method of building the ſtacks for making charcoal is performed in this manner: A long pole is erected in the centre of the area above deſcribed, and ſeveral ſmall billets ranged round the pole on their ends: the interſtices between theſe billets and the pole is filled with dry bruſh-wood, then a floor is laid, on that a ſtage in a reclining poſition, and on that a ſecond floor, &c. in the ſame manner as deſcribed above; but in the lower floor there is a billet larger and longer than the reſt, extending from the central pole to ſome diſtance beyond the circumference of the circle.

The third method is this: A chimney, or aperture of a ſquare form, is built with billets in the centre, from the bottom to the top; and round theſe, floors and inclined ſtages are erected, in the ſame manner as in the ſtacks above deſcribed, except that the baſe of this, inſtead of being circular like the others, is ſquare; and the whole ſtack, when completed, forms a pyramid.

The ſtack of either form being thus finiſhed, is coated over with turf, and the ſurface plaſtered with a mixture of earth and charcoal-duſt well tempered together.

The next operation is the ſetting the ſtack on fire. In order to this, if it be formed according to the firſt conſtruction, the central billet in the upper ſtage is drawn out, and ſome pieces of very dry and combuſtible wood are placed in the void ſpace, called, by workmen, the chimney, and fire ſet to theſe pieces. If the ſtack be built according to the ſecond conſtruction, the central pole is drawn out, together with the large horizontal billet above deſcribed; and the void ſpace occupied by the latter being filled with pieces of very dry combuſtible wood, the fire is applied to it at the baſe of the ſtack. With regard to the third conſtruction, the ſquare aperture or chimney is filled with ſmall pieces of very dry wood, and the fire applied to it at the top or apex of the pyramidal ſtack. When the ſtack is ſet on fire, either at the top or bottom, the greateſt attention is neceſſary in the workman; for in the proper management of the fire the chief difficulty attending the art of making good charcoal conſiſts. In order to this, care is taken, as ſoon as the flame begins to iſſue ſome height above the chimney, that the aperture be covered with a piece of turf, but not ſo cloſe as to hinder the ſmoke from paſſing out: and whenever the ſmoke appears to iſſue very thick from any part of the pile, the aperture muſt be covered with a mixture of earth and charcoal duſt. At the ſame time, as it is neceſſary that every part of the ſtack ſhould be equally burnt, it will be requiſite for the workman to open vents in one part and ſhut them Charcoal. in another. In this manner the fire muſt be kept up till the charcoal be ſufficiently burnt, which will happen in about two days and a half, if the wood be dry; but if green, the operation will not be finiſhed in leſs than three days. When the charcoal is thought to be ſufficiently burnt, which is eaſily known from the appearance of the ſmoke, and the flames no longer iſſuing with impetuoſity through the vents; all the apertures are to be cloſed up very carefully with a mixture of earth and charcoal-duſt, which, by excluding all acceſs of the external air, prevents the coals from being any further conſumed, and the fire goes out of itſelf. In this condition it is ſuffered to remain, till the whole is ſufficiently cooled; when the cover is removed, and the charcoal is taken away. If the whole proceſs is ſkilfully managed, the coals will exactly retain the figure of the pieces of wood: ſome are ſaid to have been ſo dexterous as to char an arrow without altering even the figure of the feather.

There are conſiderable differences in the coals of different vegetables, in regard to their habitude to fire: the very light coals of linen, cotton, ſome fungi, &c. readily catch fire from a ſpark, and ſoon burn out; the more denſe ones of woods and roots are ſet on fire more difficultly, and burn more ſlowly: the coals of the black berry-bearing alder, of the hazel, the willow, and the lime-tree, are ſaid to anſwer beſt for the making of gunpowder and other pyrotechnical compoſitions, perhaps from their being eaſily inflammable: for the reduction of metallic calces thoſe of the heavier woods, as the oak and the beech, are preferable, theſe ſeeming to contain a larger proportion of the phlogiſtic prineiple, and that, perhaps, in a more fixed ſtate: conſidered as common fuel, thoſe of the heavy woods give the greateſt heat, and require the moſt plentiful ſupply of air to keep them burning; thoſe of the light woods preſerve a glowing heat, without much draught of air, till the coals themſelves are conſumed; the bark commonly crackles and flies about in burning, which the coal of the wood itſelf very ſeldom does.

Mathematical-inſtrument makers, engravers, &c. find charcoal of great uſe to poliſh their braſs and copper-plates after they have been rubbed clean with powdered pumice-ſtone. Plates of horn are poliſhable in the ſame way, and a gloſs may be afterwards given with tripoli.

The coals of different ſubſtances are alſo uſed as pigments; hence the bone-black, ivory-black, &c. of the ſhops. Moſt of the paints of this kind, beſides their incorruptibility, have the advantage of a full colour, and work freely in all the forms in which powdery pigments are applied; provided they have been carefully prepared, by thoroughly burning the ſubject in a cloſe veſſel, and afterwards grinding the coal into a powder of due fineneſs. Pieces of charcoal are uſed alſo in their entire ſtate for tracing the outlines of drawings, &c.; in which intention they have an excellence, that their mark is eaſily wiped out. For theſe purpoſes, either the finer pieces of common charcoal are picked out and cut to a proper ſhape; or the pencils are formed of wood, and afterwards burnt into charcoal in a proper veſſel well covered. The artiſts commonly make choice of the ſmaller branches of the tree freed from the bark and pith; and the willow and vine

Charcoal. vine are preferred to all others. This choice is confirmed by the experiments of Dr Lewis, who has found that the wood of the trunks of trees produces charcoal of a harder nature than their ſmall twigs or branches; and the hard woods, ſuch as box and guaiacum, produced coals very ſenſibly harder than the ſofter woods. Willow he prefers to all others. The ſhells and ſtones of fruits yielded coals ſo hard that they would ſcarce mark on paper at all; while the coals of the kernels of fruits were quite ſoft and mellow. The ſeveral coals produced by the doctor's experiments were levigated into fine powder, mixed both with gum-water and oil, and applied as paints both thin and thick, and diluted with different degrees of white. All of them, when laid on thick, appeared of a ſtrong full black, nor could it be judged that one was of a finer colour than another; diluted with white, or when ſpread thin, they had all ſomewhat of a bluiſh caſt.

Philoſoph. Commerce of Arts.

Horns and the bones both of fiſhes and land animals, gave coals rather gloſſier and deeper-coloured than vegetables; and which, in general, were very hard, ſo as difficultly, or not at all, to ſtain paper. Here alſo the hardneſs of the coal ſeemed to depend on that of the ſubject from whence it was prepared; for ſilk, woollen, leather, blood, and the fleſhy parts of animals, yielded ſoft coals. Some of theſe differed from others very ſenſibly in colour: that of ivory is ſuperior to all the reſt, and indiſputably the fineſt of all the charcoal blacks. The animal coals had much leſs of the bluiſh caſt in them than the vegetable, many of them inclining rather to a brown. Charred pit-coal, on the other hand, ſeemed to have this blueneſs in a greater degree.

Charcoal is not ſoluble in any of the acids; but may be diſſolved in conſiderable quantities by a ſolution of *hepar ſulphuris*, in which it communicates a green colour. Melted with colourleſs frits or glaſſes, it gives a pale yellow, dark yellow, reddiſh, browniſh, or blackiſh colour, according as the inflammable matter is in greater or leſs proportion; the phlogiſton, or inflammable matter of the coal ſeeming to be the direct tinging ſubſtance. When the phlogiſtic matter is thus diffuſed through glaſs, it is no more affected by continued ſtrong fire than charcoal is when exeluded from the air.

The vapour of burning charcoal is found to be highly noxious, being no other than *fixed air*. How this affects the animal ſyſtem is explained under the article Blood.

From ſome late experiments it appears, that charcoal poſſeſſes many extraordinary properties altogether unſuſpected by former chemiſts. It has particularly a great attraction for what is called the *phlogiſton*, or rather for any kind of oily matter with which other ſubſtances may be ſullied; ſo that it now promiſes to be very uſeful in the arts in various ways never thought of before. M. Lowitz has found that it is uſeful in preparing cryſtals of tartar of a very white colour; and that the marine and nitrous acids are decompoſed by being diſtilled upon it: the red juices of vegetable fruits are diſcoloured, without loſing any of their acidity; brown rancid oils are rendered ſweet and clear by agitating them for ſome days with charcoal in powder; it changes the ſmell of putrid vegetables to that of a pure volatile alkali, and it produces the ſame effect on freſh meat. On boiling coals in powder with honey, the pure ſaccharine parts of the latter are ſaid to be ſeparated, and the honey to become a well-taſted ſugar; the purification of real ſugar is alſo ſaid to be facilitated by the ſame method. Thus alſo the mother-water of the Pruſſian alkali and of the tartareous acid are made to cryſtallize eaſily; terra foliata tartari may be made white without calcination, by previouſly diſtilling the vinegar from coals. Vinegar concentrated by freezing, and diſtilled from a large proportion of powdered coal, is extremely ſtrong, pure, and fragrant. Corn ſpirit merely ſhaken with coal loſes its bad flavour; and if honey is added, it becomes a ſweet and pleaſant liquor. Even when ardent ſpirits are impregnated with any vegetable oils, the flavour is deſtroyed in this way; and if the ſpirit be diſtilled, the reſiduum is ſaid not to be brown; ſo that if the diſtillation is carried too far, no inconvenience enſues. With Peruvian bark a clear decoction was formed, and the reſiduum was a ſalt, in taſte like digeſtive ſalt. Theſe effects were produced by every kind of coal, whether foſſil or charred vegetable ſubſtances. Charcoal.

Charcoal has lately been ſeparated from the pureſt ſpirit of wine in the proceſs for making ether*; and by M. Lavoiſier is ſuppoſed to be one of the conſtituent parts or elements of that very volatile liquid. But the moſt extraordinary modern diſcovery concerning this ſubſtance is that of Dr Prieſtley, who has found that ſeveral of the metals may be converted into charcoal by paſſing the ſteam of ſpirit of wine over them when red-hot; and this, by way of diſtinction, he calls the *charcoal of metals*.

* See Chemiſtry, Index.

This ſurpriſing diſcovery was made accidentally, while the Doctor was repeating the experiments by which M. Lavoiſier imagined water might be converted into air. Having tranſmitted the ſteam of water thro' a copper tube, on which it had no effect, he was willing to try the effects of that of other fluids; and for this purpoſe made choice of ſpirit of wine, having before procured inflammable air by ſending the ſame ſteam through a red-hot tobacco-pipe. No ſooner had the vapour of this fluid, however, touched the red-hot copper, than he was aſtoniſhed at the rapid production of air from it, which reſembled the blowing of a pair of bellows; and before four ounces of the ſpirit were expended, the tube was found to be perforated in two or three places. In a moment afterwards it was ſo far deſtroyed, that it fell to pieces on attempting to remove it from the fire; the inſide being filled with a black matter reſembling lamp-black. Having now recourſe to earthen tubes, the Doctor found that, by melting copper and other metals in them, and tranſmitting the vapour of ſpirit of wine in contact with them while in a ſtate of ignition, different ſubſtances were formed according to the metals employed. On ſending three ounce-meaſures of ſpirit of wine over two ounces of copper, the metal loſt 28 grains of its weight, and 446 grains of charcoal were procured, chiefly in the form of powder, though ſome of it was in large flakes ſeveral inches long; having ſeparated at once from the ſurface of the melted metal. Theſe pieces were almoſt quite black, and bore handling without any danger of being broken. In another experiment, 508 grains of charcoal were obtained from 19 grains of copper; but here the metal had been previouſly reduced

Charcoal

duced to thin plates, and they were not all converted into charcoal, being ſomething harder, and therefore partially metallic in the middle.

Silver was found to be affected very much as copper had been; but the larger maſſes of charcoal procured from this metal were much whiter than thoſe from copper. Only a ſmall quantity of charcoal could be procured from lead. Three ounce-meaſures of ſpirit of wine and near four ounces of lead, gave only a ſmall quantity of whitiſh powdery ſubſtance, though 58 grains of the lead were miſſing; but the inſide of the glaſs-tube through which the air was tranſmitted became very black. The like quantity of ſpirit of wine ſent over 360 grains of melted tin, and produced 26 grains of black duſt, the metal not being diminiſhed quite four grains. The vapour of two ounce-meaſures of ſpirit of wine, ſent over 960 grains of iron-ſhavings, diminiſhed the metal only two grains; but no charcoal could be collected, though the air was loaded with black particles. The iron had acquired a dark blue colour. Gold was not ſenſibly changed or diminiſhed in weight; and it not only remained unalterable by the proceſs itſelf, but effectually protected a tenth-part of its weight of copper from the action of the ſteam.

Spirit of turpentine was found to anſwer for the production of this charcoal, as well as ſpirit of wine; 120 grains of the former being obtained from five of copper by means of the turpentine, notwithſtanding a very denſe black ſmoke which iſſued from the end of the tube during the whole time of the operation. The Doctor obſerves, indeed, that in all theſe experiments, where the heat is very great, the minute diviſion and volatility of this charcoal is very extraordinary. Seeing it iſſue from the end of a tube in a denſe black cloud, he endeavoured to collect it in a large glaſs receiver; but after having given the glaſs a very thin black coating, not diſtinguiſhable in appearance from ſoot, it iſſued from the orifice like denſe ſmoke, and appeared to be altogether incoercible, even when ſeveral adopters were connected with the receiver, and a tube, from whence it finally iſſued, plunged deep into water.

It is obſerved, that charcoal of wood, when freſh made, has a ſtrong attraction for air, and will continue to abſorb it for a conſiderable time; a property which it has in common with ſeveral other ſubſtances. Dr Prieſtley made ſome experiments to aſcertain the quantity abſorbed. For this purpoſe, he left in an open diſh, on the fourth of September, ſome charcoal freſh made from dry oak, and weighing 364 grains. Two or three days after it weighed 390 grains; on the 24th of October, 419; and on the 26th of April following it weighed 421 grains. By diſtillation in an earthen retort it yielded a quantity of air conſiderably phlogiſticated, and then weighed 312 grains, but the retort appeared to have been cracked. On expoſing it again to the open air for a whole year, it weighed 371 grains. In another experiment, a quantity of charcoal which had yielded by a ſtrong heat 336 ounce-meaſures of air, and weighed immediately afterwards 756 grains, increaſed in three days to 817; and on expelling the air from it was reduced to 711 grains. In all theſe experiments the air was worſe than that of the atmoſphere, and a part was fixed air.

It has been generally ſuppoſed by chemiſts, that charcoal was indeſtructible by any other means than burning in an open fire, though of late it is found totally diſſipable and convertible into inflammable air, by the heat of a burning lens *in vacuo*, at leaſt with the aſſiſtance of a ſmall quantity of water. By burning in dephlogiſticated air, it is found to convert almoſt the whole of it into fixed air. See AEROLOGY, n° 110—113, 129, 131. From the experiments there related, it is now evident, that charcoal as ſuch, and without any decompoſition, is an ingredient in both thoſe aerial fluids, and is indeed the phlogiſton of Stahl ſo long ſought in vain. This diſcovery, however, has not by any means put an end to the diſputes betwixt the *Phlogiſtians* and *Antiphlogiſtians*, though it certainly ought to have done ſo, and muſt aſſuredly do ſo in a ſhort time. The experiments of Dr Prieſtley are not doubted; and charcoal, the gravitating matter of light inflammable air, and *phlogiſton*, are allowed to be the ſame by the Antiphlogiſtians as well as by the oppoſite party. "The preſent controverſy (ſays Mr Higgins) amongſt philoſophers depends upon the following queſtions: 1. Whether water be or be not compoſed of dephlogiſticated and light inflammable air? 2. Whether or no the condenſation of dephlogiſticated air, or its union to different bodies, does not depend upon one principle, common to all combuſtible bodies? or, in other words, whether or no all bodies which burn or calcine, ſuch as ſulphur, phoſphorus, charcoal, oils, metals, phlogiſticated air, &c. contain the matter of light inflammable air as one of their conſtituent principles? One ſhould ſuppoſe, if theſe ſubſtances were compoſed of two principles, namely a peculiar baſis, and the matter of light inflammable air or phlogiſton, that it would be poſſible to reſolve them into theſe principles; more eſpecially when we conſider the great attraction of the matter of light inflammable air to fire; but the maintainers of phlogiſton have not as yet been able to do this," &c. *Higgins's Comparative View*, Preſ. p. 5.

The limits of this work will not allow us to enter on a full diſcuſſion of this controverſy, nor can we pretend to be able to ſettle the diſputes on the ſubject. It nevertheleſs ſeems ſomewhat unnatural to call iron, lead, copper, ſulphur, phoſphorus, &c. ſimple and unchangeable bodies, or if we pleaſe *elements*; as thus the number of elementary bodies might be increaſed without number, and *water*, which has generally been reckoned a ſimple one, ſuppoſed to be almoſt the only compound body in nature. It is alſo certain, that Dr Prieſtley has made ſome very ſtriking and apparently deciſive experiments on the ſubject of metals, to which no proper reply has ever been made. In order to ſee the force of theſe experiments, however, we muſt ſtill obſerve, that, according to the Phlogiſtians, the calces of metals are reduced, on the addition of charcoal, not only by emitting the dephlogiſticated air which adheres to them when in the form of calces, but by the admiſſion of a quantity of the charcoal itſelf into their ſubſtance. This the Antiphlogiſtians deny; and though they admit the neceſſity of charcoal in the operation, yet they affirm that it acts only by attracting the dephlogiſticated air contained in the calx, with which it forms fixed air; and hence they muſt ſay, that in all metallic reductions a quantity of fixed air is produced, equivalent not only to the weight of the charcoal employed, but alſo to that of the dephlogiſticated air con-

Charcoal. contained in the calx. The decifive experiment therefore would be, to expel from a metallic calx all the air it contained, to weigh it exactly in that ſtate, and then obſerve whether it gained any thing in weight by being reduced to a metal. This, however, has not been done; and the Antiphlogiſtians complain that their adverſaries have not been able to produce a pure metallic calx free from all kind of aerial vapour. But though it is not pretended that any ſuch calx has yet been produced, if the Phlogiſtians can ſhow the poſſibility of reducing a calx without the production of fixed air, it would ſeem to be equally deſtructive of the antiphlogiſtic doctrine. This appears to have been done by Dr Prieſtley in the experiments above alluded to; and it is even doubtful whether he did not obtain the ſo much deſired calx, viz. one perfectly free from air altogether. "I put (ſays he) upon a piece of broken crucible, which could yield no air, a quantity of minium, *out of which all air* had been extracted; and placing it upon a convenient ſtand, introduced it into a large receiver filled with inflammable air confined by water. As ſoon as the minium was dry, by means of the heat thrown upon it, I obſerved that it became black, and then ran in the form of perfect lead, at the ſame time that the air diminiſhed at a great rate the water aſcending within the receiver. Before this firſt experiment was concluded, I perceived, that if the phlogiſton in inflammable air had any baſe, it muſt be very inconſiderable; for the proceſs went on till there was no more room to operate without endangering the receiver; and examining the air that remained, I found that it could not be diſtinguiſhed from that in which I began the experiment, which was air extracted from iron by oil of vitriol.

"I afterwards carefully expelled, from a quantity of minium, all the phlogiſton, and every thing elſe that could have aſſumed the form of air, by giving it a red heat when mixed with ſpirit of nitre; and immediately uſing it in the manner mentioned above, I reduced 101 ounce-meaſures of inflammable air to two. To judge of its degree of inflammability, I preſented the flame of a ſmall candle to the mouth of a vial filled with it, and obſerved, that it made 13 ſeparate exploſions, though weak ones (ſtopping the mouth of the phial with my finger after each exploſion); when freſh made inflammable air, in the ſame circumſtances, made only 14 exploſions, though ſtronger ones. In this experiment, however, I overlooked one obvious conſideration, viz. that water, or any thing ſoluble in water, might be the baſis of inflammable air. All that could be abſolutely inferred from the experiment was, that this baſis could not be any thing that was capable of ſubſiſting in the form of air. It will be ſeen, that I afterwards made the experiment with air confined by mercury."

In this experiment it is to be regretted that the Doctor did not inform us whether the weight of his calces was on the whole increaſed or diminiſhed by the operation. As it ſtands, though ſufficient to overthrow the doctrine of the Antiphlogiſtians, it is not altogether ſufficient to eſtabliſh that of their adverſaries. Mr Higgins, however, though he does not reply to this experiment, gives an account of another from Dr Higgins, which he conſiders as abſolutely deciſive againſt the Phlogiſtians. "Dr Higgins (ſays he) introduced ſome pieces of well-burned charcoal into a deep crucible, and covered them over an inch deep with powdered charcoal. Having luted on a cover, he expoſed them for two hours to heat ſufficient to melt ſilver; he then placed the crucible in ſuch a manner that the powder might remain red hot for ſome time after the pieces next the bottom had cooled. This he had done, as the charcoal muſt imbibe ſomething on cooling, both to ſupply it with inflammable air, and to prevent a communication with the external air, which the charcoal would otherwiſe have imbibed. Charcoal.

"One hundred and twenty grains of this charcoal quickly powdered, were well mixed with 7680 grains of litharge, which had been previouſly fuſed to ſeparate any uncalcined lead it might contain. This mixture was charged into a coated retort juſt large enough to contain it; ſo that the common air muſt have been nearly ſecluded. Being then placed in a reverberating furnace, and heat duly applied, it yielded by eſtimation, after cooling to the mean temperature of the atmoſphere, 384 grains of fixable air, at the rate of 0.57 grains to a cubic inch, 8.704 of phlogiſticated air, and 0.911 grains of dephlogiſticated air, beſides 49 grains of water. On breaking the retort, 3888 grains of revived lead were found, beſides ſome vitrified litharge; but not an atom of charcoal was left, nor was there a particle of inflammable air produced. Now, let my reader conſider the weight that 3888 grains of lead acquire by its converſion to litharge, and the quantity of inflammable air that 120 grains of charcoal will afford (which, according to Dr Prieſtley, is about 360 ounce-meaſures), and he will find, making allowance for the phlogiſticated air, that theſe nearly correſpond with the proportion of heavy inflammable air and dephlogiſticated air neceſſary to the formation of fixable air by the electric ſpark. Hence we may conclude, that not a particle of charcoal entered into the conſtitution of the revived lead, but muſt have been wholly converted into fixable air."

To this experiment, however, the Phlogiſtians will reply, that ſo far from being deciſive on the ſubject, no concluſion whatever can be drawn from it, on account of its *enormous* inaccuracy. The quantity of matter put into the retort was 7680+120, or 7800 grains, and the whole produce was 3888+384+8.704 +0.911+49=4330.615 grains: a deficiency therefore of no leſs than 3469.385 grains is to be accounted for; and of this we hear not one word; ſo that we are at liberty to ſuppoſe that the vitrified litharge had perforated the retort in ſuch a manner as to admit the fixed and phlogiſticated air from without, as Dr Prieſtley found earthen retorts pervious to air from without; and this, though coated, might by a corroſion of the glaſs (if it was a glaſs one) be reduced to a ſimilar ſituation.

We do not mean that this ſhould be reckoned a formal anſwer to Dr Higgins's experiment; all we intend here, is to ſtate the arguments fairly on both ſides, ſo that the reader who has not an opportunity of making experiments himſelf, may be able to judge on which ſide the truth lies. Dr Prieſtley informs us, that in his experiment, the calx of lead abſorbed a quantity of inflammable air without the extrication of fixed air, or any thing elſe that could be perceived. Whether or not have we reaſon to conclude from thence,

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Charcoal. that the gravitating, ſolid, or coally, part of the inflammable air was received into the calx, and became part of the revived metal? In Dr Higgins's experiment a quantity of elaſtic fluid was produced, and a quantity of lead revived; but we neither know how much of the calx went to this lead, how much the litharge had originally attracted from the air, nor whether the elaſtic fluids were certainly produced; or indeed whether any of them, the ſmall quantity of dephlogiſticated air alone excepted, came from the materials or not. From ſuch a ſtate of the caſe then, have we reaſon to "conclude, that not a particle of charcoal entered into the conſtitution of the lead?"

We ſhall next conſider an experiment made by Mr Higgins himſelf, and which he likewiſe conſiders as deciſive againſt the Phlogiſtians. "I introduced (ſays he) ſome iron nails, free from ruſt, into ſtrong volatile vitriolic acid; when it ſtood for a few minutes, it acquired a milky appearance, and the ſolution went on without ebullition or extrication of air. On ſtanding for a few hours, the ſolution acquired a darkiſh colour, and a black powder was precipitated. This powder, when collected and waſhed, put on red hot iron, burned partly like ſulphur and partly like charcoal duſt, and the incombuſtible reſiduum was of a purpliſh colour. The filtered ſolution was perfectly neutraliſed, and free from the leaſt ſulphureous pungency. Its taſte was ſtrongly chalybeate, but not ſo diſagreeable as that of the ſolution of iron in the perfect vitriolic acid, or in any of the mineral acids. Nitrous acid dropped into the ſolution inſtantly produced a cloudineſs, which immediately diſappeared without ebullition, though volatile ſulphureous acid was extricated in its utmoſt degree of pungency. The vitriolic, marine, and acetous acids, decompoſed this ſolution, but cauſed no turbidneſs, nor was any inflammable air produced.

Higgins's Comparative View, p. 49

"In order to know whether the ſulphur was diſengaged from the volatile ſulphureous acid or the iron, I poured marine acid on the ſame nails, when light inflammable air and hepatic air were copiouſly produced, and likewiſe ſulphur was depoſited in its crude ſtate. When I uſed vitriolic or the nitrous acid, no ſulphur was produced. I tried different nails, and likewiſe iron-filings, with the ſame reſult. Theſe facts convinced me that the ſulphur came from the iron; but that all ſorts of iron contain ſulphur is what I cannot pretend to know, as I have not tried ſteel, or varieties enough of malleable iron. However, I have ſtrong reaſon to ſuſpect, that ſulphur has more to do in the different properties of iron than we are aware of. That iron ſhould contain ſulphur, notwithſtanding the different proceſſes it muſt neceſſarily undergo before it acquires malleability, conſidering the volatility of ſulphur, points out the force of their attraction to one another; and the ſeparation of this again by volatile ſulphureous acid, ſhows likewiſe the greater attraction of iron to ſulphur and dephlogiſticated air jointly. That volatile ſulphureous acid ſhould diſſolve iron without the extrication of inflammable air or phlogiſton, is a very ſtrong inſtance of the fallacy of the phlogiſtic doctrine. A ſmall quantity of inflammable air is produced, but it is ſo trifling comparatively to what ſhould be produced from the quantity of iron diſſolved, that it is hardly worth noticing; and in my opinion proceeds from a portion of perfect vitriolic acid, which is generally inſeparable from the volatile acid. If volatile vitriolic acid were a compound of phlogiſton, a certain baſis, and dephlogiſticated air, a greater quantity of inflammable air ſhould have been diſengaged during the ſolution of iron in this acid than when the perfect vitriolic acid is uſed. Let us even ſuppoſe volatile ſulphureous acid to be compoſed of the baſis of ſulphur, phlogiſton, and dephlogiſticated air, which is the opinion of all the Phlogiſtians, though they differ with reſpect to the modification of theſe three principles; and likewiſe iron to be compoſed of a certain baſis and phlogiſton; I would aſk the Phlogiſtians, What becomes of the phlogiſton of the iron during its ſolution?" Charcoal.

But however much Mr Higgins may be convinced, from this experiment, of the fallacy of the phlogiſtic doctrine, his adverſaries, inſtead of being ſilenced, will urge his own experiment againſt himſelf. He owns, that during the ſolution ſomething was ſeparated of a black colour, and which burned like charcoal duſt. Unleſs therefore Mr Higgins ſhall prove the contrary, they will ſay, that this was the real *phlogiſton* or *charcoal* which entered into the ſubſtance of the metal; and that it appeared in its native form, becauſe the volatile vitriolic acid had not ſpecific or latent heat ſufficient to convert it into inflammable air. At any rate, it was incumbent on Mr Higgins to have accounted for the coally part of his reſiduum as well as the ſulphureous one; yet he has been at conſiderable pains to deduce the latter from the iron, without ſpeaking a word about the former. Indeed, whether he deduced this from the iron or the vitriolic acid, it will make equally againſt him; for his principles do not allow that the volatile vitriolic acid contains any charcoal. That the latter really does ſo, however, appears from an experiment of Dr Prieſtley, in which he reduced a calx of lead by means of vitriolic acid air, the ſame with the vitriolic or volatile ſulphureous acid. It is true, that only a ſmall quantity of metal was thus procured; but however ſmall this was, the Antiphlogiſtians do not pretend that metals can be reduced to their metallic ſtate in any quantity, except by the mediation of charcoal.

Thus it appears, that with regard to metals the diſpute is as yet far enough from being decided in favour of the Antiphlogiſtians. Their cauſe is equally doubtful with regard to ſulphur and phoſphorus, both of which Dr Prieſtley has produced by heating vitriolic and phoſphoric acid in inflammable air. Indeed, by ſome experiments on ſulphur, the matter ſeems to be decided againſt them. "Perhaps (ſays Dr Prieſtley) as deciſive a proof as any, of the real production of fixed air from phlogiſton and dephlogiſticated air, may be drawn from the experiments in which I always found a quantity of it when I burned ſulphur in dephlogiſticated air. In one of theſe experiments to which I gave more particular attention, ſix ounce-meaſures and an half of the dephlogiſticated air were reduced to about two ounce-meaſures, and one-fifth of this was fixed air." Now, though the Doctor inferred from this, that fixed air was compoſed of phlogiſton and dephlogiſticated air, on the ſuppoſition of ſulphur containing phlogiſton; yet, admitting from other proofs, that fixed air is compoſed of theſe two principles, the expe-

Charcoal. riment unanſwerably proves, that ſulphur contains phlogiſton or charcoal, though indeed in a very ſmall quantity: but if the ſulphur contained none at all, and the dephlogiſticated air as little, as the Antiphlogiſtians would have it, how is it poſſible that a compound, of which phlogiſton makes a part, ſhould reſult from an union of the two *? Another experiment equally deciſive, even with regard to metals, is that quoted from Dr Prieſtley in the place juſt referred to (A), where he obtained pure fixed air from a mixture of red precipitate and iron-filings. Now, according to the antiphlogiſtic doctrine, neither of theſe materials contained an atom of charcoal or phlogiſton; whence then came the phlogiſton in the fixed air which iſſued from the mixture?

* See *Aerology*, n° 111.

Thus the Antiphlogiſtians ſeem to be unanſwerably refuted with regard to ſulphor and metallic ſubſtances; for if the two experiments juſt related be accurate, it is impoſſible to invalidate them by any argumentation whatever. Their laſt reſource therefore is the decompoſition of water: and even here it is evident they have little reaſon to boaſt. On this ſubject, however, we are ſorry to obſerve, that the opinions have been ſo many, ſo various, and ſo fluctuating, that it is not only impoſſible to ſay what are the prevailing ones, but even difficult to aſcertain what are the ſentiments of any individual on the ſubject. Under the article AEROLOGY, n° 81. we have quoted Dr Prieſtley as favouring the doctrine of the decompoſition of water; and in Mr Higgins's work we find him quoted as oppoſing it. "Dr Prieſtley (ſays he) ſuppoſes that the water produced by the condenſation of inflammable and dephlogiſticated air, is only what was ſuſpended and attached to them in their elaſtic ſtate, and that their reſpective gravitating particles form a different compound, namely, the nitrous acid. To aſcertain this, he confined his mixture of airs with dry fixed alkali over mercury, in order to abſtract from it as much water as poſſible. Having thus prepared his mixture of airs, he found, after exploding them, that the product of water fell far ſhort of the weight of both airs; and he obſerved a denſe vapour after every exploſion, which ſoon condenſed, and adhered in a ſolid ſtate to the ſides of the veſſel, which he found afterwards to be the nitrous acid." To this Mr Higgins anſwers, that the airs ought to have been accurately weighed after abſtracting the water from them, when (he ſuppoſes) the weight of water produced would have equalled them. This indeed ought to have been done; but Mr Higgins, or ſome Antiphlogiſtian, ought to have done ſo before he decided poſitively in favour of the oppoſite doctrine. At any rate, it cannot be pretended, that in any experiment, let the circumſtances of it be what they would, the quantity of water produced ever equalled that of the two airs. It is evident therefore, that till this ſhall ſome how or other be cleared up, the matter muſt remain uncertain. That the pureſt water we can obtain always contains phlogiſton, is what no Phlogiſtian denies; that it eſſentially belongs to it is doubtful, though indeed it muſt be probable, that it does ſo until experiments ſhow the contrary. Mr Cavendiſh ſuppoſes that *dephlogiſticated* air and *dephlogiſticated water* may be the ſame; and indeed this would ſeem to be almoſt certain, were it not for a circumſtance taken notice of by Mr Higgins, viz. that in the firing of iron in dephlogiſticated air the latter appears to be totally abſorbed; though it is certain, that a quantity of undecompoſed water enters into its compoſition. Charcoal.

Comparative View, p. 3.

How far this circumſtance throws any obſcurity on the matter the reader muſt determine. For a more full inveſtigation of the ſubject, however, we muſt refer to the article WATER; and in the mean time ſhall diſmiſs the article with a few obſervations on the compoſition of charcoal.

From the days of Stahl till very lately, the component parts of this ſubſtance have been reckoned a certain kind of earth combined with what was called phlogiſton. The late experiments of Dr Prieſtley have ſhown, that this doctrine is erroneous, and that charcoal is wholly diſſipable into vapour. "On the whole (ſays the tranſlator of Wiegleb's Chemiſtry), charcoal appears, from the experiments of Lavoiſier and Berthollet, to be an oil deprived of its inflammable gas. But coal of wood (or common charcoal) likewiſe contains fixed alkali, which the ſoot (or the coal of oil) does not, but inſtead of this exhibits volatile alkali. The fixed alkali of the former proceeds from the plant itſelf, and this, in the caſe of ſoot, is joined with inflammable gas, and forms volatile alkali, the earthy part being left behind, as happens when this latter is prepared from fixed alkali. Genuine charcoal, therefore, conſiſts of this vegetable principle, united with a little fixed alkali and part of the phlogiſton that conſtituted the oil of the plant of which it is made: for ſome of this principle is carried off, together with the *hydrophloge* (a), in the form of inflammable gas, if diſtilled in cloſe veſſels; but if burned in the open air, the hydrophloge unites with the pure part of the air, and forms water. From theſe conſiderations, as well as from the experiments and obſervations of M. Berthollet, in the Mem. de l'Acad. des Sciences pour 1786, p. 33. *et ſeq.* it appears, that common charcoal conſiſts of the vegetable principle, ſome phlogiſton, fixed alkali, and no inflammable gas."

On all this, however, we muſt obſerve, that it is entirely diſproved by the experiments of Dr Prieſtley, ſo often quoted, in which it was totally diſſipated into inflammable air *. On this occaſion indeed he acknowledges, that ſome very minute particles of aſhes were obſerved, which could not have amounted to a ſingle grain from many pounds of wood. Even theſe, according to what he obſerves in the ſame place, may be ſuppoſed to have come from the ſmall quantity of air in the receiver; and it is to be wiſhed that the Doctor would repeat the experiment in one of thoſe perfect vacuums through which the electric fluid cannot be made to paſs. From undoubted experiments, however, it appears, that charcoal cannot be decompoſed by mere heat; as *in vacuo* it is diſſipated into inflammable air; and

* See *Aerology*, n° 129, 130.

(A) See *Encycl.* Vol. I. p. 169. col. 1. where, in lines 18, 19 from the top, read *precipitate* for *charcoal*.

(a) A word uſed by Mr Wiegleb, as far as we can comprehend the author's meaning, for one of the component parts of water. See his General Syſtem of Chemiſtry, tranſlated by Hopſon, p. 39.

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Charcoal. and this, on preſenting a proper ſubſtance to attract the ſolid part, again diſcovers itſelf, by its blackneſs, to be real charcoal. As little does it appear deſtructible by burning in the open air; for though ſome aſhes are left, it appears probable that theſe differ from the coal itſelf in nothing but having a quantity of air attached to them. By far the greateſt part of it, even in the common way of burning, is converted into fixed air; and from this it may again be ſeparated by taking the electric ſpark in that fluid, when it is reſolved into very pure dephlogiſticated and inflammable air. The ſame ſeparation may be effected by merely heating iron in fixed air, in which caſe the dephlogiſticated part will unite to the iron, and the coaly part, together with part of the phlogiſton of the metal, be converted into inflammable air. From all theſe, and other conſiderations, a ſuſpicion is induced, that the matter of charcoal is not different from the element of earth itſelf; and that, according to the different modifications of this ſubſtance, it either appears as coal, aſhes, earth of various kinds, or even metals. This receives ſome confirmation from the following experiments of Mr Watt, related in the 74th volume of the Philoſophical Tranſactions: "I diſſolved (ſays he) magneſia alba, calcareous earth, and minium, in nitrous acid dephlogiſticated by boiling, and diluted with proper proportions of water. I made uſe of glaſs-retorts coated with clay; and I received the air in glaſs-veſſels, whoſe mouths were immerſed in a glazed earthen baſon containing the ſmalleſt quantity of water that could be uſed for the purpoſe. As ſoon as the retort was heated a little above the degree of boiling water, the ſolutions began to diſtil watery vapours containing nitrous acid. Soon after theſe vapours ceaſed, yellow fumes, and, in ſome of the caſes, dark red fumes, began to appear in the neck of the retort; and, at the ſame time, there was a production of dephlogiſticated air, which was greater in quantity from ſome of theſe mixtures than from others, but continued in all of them until the ſubſtances were reduced to dryneſs. I found in the receiving water, &c. very nearly the whole of the nitrous acid uſed for their ſolution, but highly phlogiſticated, ſo as to emit nitrous air by the application of heat; and there is reaſon to believe, that with more precaution the whole might have been obtained. As the quantity of dephlogiſticated air produced by theſe proceſſes did not form a ſufficient part of the whole weight to enable me to judge whether any of the real acid entered into the compoſition of the air I obtained, I ceaſed to purſue them further, having learned from them the fact, that however much the acid and the earths were dephlogiſticated before the ſolution, the acid always became highly phlogiſticated in the proceſs.

"In order to examine whether this phlogiſton was furniſhed by the earths, ſome dephlogiſticated nitrous acid was diſtilled from minium till no more air or acid came over. More of the ſame acid was added to the minium as ſoon as it was cold, and the diſtillation repeated, which produced the ſame appearances of red fumes and dephlogiſticated air. This operation was repeated a third time on the ſame minium, without any ſenſible variation in the phænomena. The proceſs ſhould have been ſtill farther repeated, but the retort broke about the end of the third diſtillation; the quantity of minium uſed was 120 grains, and the quantity of nitrous acid added each time was 240 grains, of ſuch ſtrength that it could diſſolve half its weight of mercury by means of heat. It appears from this experiment, that unleſs minium be ſuppoſed principally to conſiſt of phlogiſton, the ſource of the phlogiſton thus obtained, was either the nitrous acid itſelf, or the water with which it was diluted; or elſe that it came through the retort with the light; for the retort was in this caſe red hot before any air was produced. Yet this latter concluſion does not appear very ſatisfactory, when it is conſidered, that in the proceſs wherein the earth made uſe of was magneſia, the retort was not red hot, or very obſcurely ſo, in any part of the proceſs, and by no means luminous when the yellow and red fumes firſt made their appearance."

Chardin & Charge.

To theſe experiments, however, the Antiphlogiſtians will no doubt reply, that there was no phlogiſton in the caſe, and that the nitrous acid was only decompoſed; and indeed the deciſive experiment here would be, the entire diſſipation of a quantity of earth into ſome kind of air, as may be done with charcoal; but to do this in the way of diſtillation muſt be attended with incredible labour, though, as finally deciding this point, it ſeems to be well worth purſuing.

A pretty ſtrong proof of the identity of metallic calces with charcoal, is their converſion into it in the manner already related. Experiments, however, are yet wanting on the ſubject; though it ſeems probable from what Dr Prieſtley has already done, that they may thus be entirely diſſipated into air as well as common charcoal.

CHARDIN (Sir John), a celebrated traveller, was born at Paris in 1643. His father, who was a jeweller, had him educated in the Proteſtant religion; after which he travelled into Perſia and India. He traded in jewels, and died at London in 1713. The account he wrote of his travels is much eſteemed.

CHARENTON, the name of two towns of France, the one upon the Marmaude in the Bourbonnois; the other in the iſle of France, near the confluence of the Marne with the Seine.

CHARES the Lydian, a celebrated ſtatuary, was the diſciple of Lyſippus; and made the famous Coloſſus of the ſun in the city of Rhodes. Flouriſhed 288 years before Chriſt.

CHARGE, in gunnery, the quantity of powder and ball wherewith a gun is loaded for execution.

The rules for charging large pieces in war are, That the piece be firſt cleaned or ſcoured within-ſide: that the proper quantity of powder be next driven in and rammed down; care, however, being taken, that the powder, in ramming, be not bruiſed, becauſe that weakens its effect: that a little quantity of paper, hay, lint, or the like, be rammed over it; and that the ball or ſhot be intruded. If the ball be red-hot, a tompion, or trencher of green wood, is to be driven in before it. The common allowance for a charge of powder of a piece of ordnance, is half the weight of the ball. In the Britiſh Navy, the allowance for 32 pounders is but ſeven-ſixteenths of the weight of the bullet. But a late author is of opinion, that if the powder in all ſhip-cannon whatever was reduced to one-third weight of the ball, or even leſs, it would be of conſiderable advantage, not only by ſaving ammunition, but by keeping.

Robin's Propoſal for increaſing the Strength of the Navy.

Charge || Chariot.

ing the guns cooler and quicter, and at the ſame time more effectually injuring the veſſels of the enemy. With the preſent allowance of powder the guns are heated, and their tackle and furniture ſtrained; and this only to render the bullets leſs efficacious: for a bullet which can but juſt paſs through a piece of timber, and loſes almoſt all its motion thereby, has a much better chance of rending and fracturing it, than if it paſſes through with a much greater velocity.

CHARGE, in heraldry, is applied to the figures repreſented on the eſcutcheon, by which the bearers are diſtinguiſhed from one another; and it is to be obſerved, that too many charges are not ſo honourable as fewer.

CHARGE of Lead, denotes a quantity of 36 pigs. See PIG.

To CHARGE in the military language, is to attack the enemy either with horſe or foot.

CHARGE, in law, denotes the inſtructions given to the grand jury, with reſpect to the articles of their inquiry, by the judge who preſides on the bench.

CHARGE, in law, alſo ſignifies a thing done that bindeth him who doth it; and diſcharge is the removal of that charge. Lands may be charged in various ways; as, by grant of rent out of it, by ſtatutes, judgments, conditions, warranties, &c.

CHARGE of borning, in Scots law. See HORNING.

CHARGE to enter Heir, in Scots law, a writing paſſing under the ſignet, obtained at the inſtance of a creditor, either againſt the heir of his debtor, for ſuing upon him the debt as repreſenting the debtor, which is called a general charge: or, againſt the debtor himſelf, or his heir, for the purpoſe of veſting him in the right of any heritable ſubject to which he has made up no title, in order the creditor may attach that ſubject for payment of his debt, in the ſame manner as if his debtor or his heir were legally veſted in it by ſervice or otherwiſe. This laſt kind is called a *ſpecial charge*.

CHARGE, or rather *Overcharge*, in painting, is an exaggerated repreſentation of any perſon; wherein the likeneſs is preſerved, but at the ſame time ridiculed.

Few painters have the genius neceſſary to ſucceed in theſe charges: the method is, to ſelect and heighten ſomething already amiſs in the face, whether by way of defect, or redundancy: thus v. g. if Nature have given a man a noſe a little larger than ordinary, the painter falls in with her, and makes the noſe extravagantly long: or if the noſe be naturally too ſhort, in the painting it will be a mere ſtump; and thus of the other parts.

CHARGED, in heraldry, a ſhield carrying ſome impreſs or figure, is ſaid to be charged therewith; ſo alſo, when one bearing, or charge, has another figure added upon it, it is properly ſaid to be charged.

CHARGED, in electrical experiments, is when a vial, pane of glaſs, or other electric ſubſtance, properly coated on both ſides, has a quantity of electricity communicated to it; in which caſe the one ſide is always electrified poſitively, and the other negatively.

CHARIOT, a half coach, having only a ſeat behind, with a ſtool before. See COACH.

The chariots of the ancients, chiefly uſed in war, were called by the ſeveral names *biga*, *triga*, &c. according to the number of horſes applied to draw them. Every chariot carried two men, who were probably the warrior and the charioteer; and we read of ſeveral men of note and valour employed in driving the chariot. When the warriors came to encounter in cloſe fight, they alighted out of the chariot, and fought on foot; but when they were weary, which often happened by reaſon of their armour, they retired into their chariot, and thence annoyed their enemies with darts and miſſive weapons. Theſe chariots were made ſo ſtrong, that they laſted for ſeveral generations. Chariot.

Beſides this ſort, we find frequent mention of the *currus falcati*, or thoſe chariots armed with hooks, or ſcythes, with which whole ranks of ſoldiers were cut off together, if they had not the art of avoiding the danger; theſe were not only uſed by the Perſians, Syrians, Egyptians, &c. but we find them among the ancient Britons; and notwithſtanding the imperfect ſtate of ſome of the moſt neceſſary arts among that nation before the invaſion of the Romans, it is certain that they had war-chariots in great abundance. By the Greek and Roman hiſtorians, theſe chariots are deſcribed by the ſix following names; *viz.* Benna, Petoritum, Currus or Carrus, Covinus, Eſſedum, and Rheda. The benna ſeems to have been a chariot deſigned rather for travelling than war. It contained two perſons, who were called *cumbennones*, from their ſitting together in the ſame machine. The petoritum ſeems to have been a larger kind of chariot than the benna; and is thought to have derived its name from the Britiſh word *pedwar*, ſignifying *four*; this kind of cariage having four wheels. The carrus or currus was the common cart or waggon. This kind of chariot was uſed by the ancient Britons, in times of peace, for the purpoſes of agriculture and merchandiſe; and, in time of war, for carrying their baggage, and wives and children, who commonly followed the armies of all the Celtic nations. The covinus was a war-chariot, and a very terrible inſtrument of deſtruction; being armed with ſharp ſcythes and hooks for cutting and tearing all who were ſo unhappy as to come within its reach. This kind of chariot was made very ſlight, and had few or no men in it beſides the charioteer; being deſigned to drive with great force and rapidity, and to do execution chiefly with its hooks and ſcythes. The eſſedum and rheda were alſo war-chariots, probably of a large ſize, and ſtronger made than the covinus, deſigned for containing a charioteer for driving it, and one or two warriors for fighting. The far greateſt number of the Britiſh war-chariots ſeem to have been of this kind. Theſe chariots, as already obſerved, were to be found in great numbers among the Britons; inſomuch that Cæſar relates that Caſſibelanus, after diſmiſſing all his other forces, retained no fewer than 4000 of theſe war-chariots about his perſon. The ſame author relates, that, by continual experience, they had at laſt arrived at ſuch perfection in the management of their chariots, that "in the moſt ſteep and difficult places they could ſtop their horſes upon full ſtretch, turn them which way they pleaſed, run along the pole, reſt on the harneſs, and throw themſelves back into their chariots, with incredible dexterity."

CHARIOTS, in the heathen mythology, were ſometimes conſecrated to the ſun; and the ſcripture obſerves, that Joſiah burnt thoſe which had been offered to the ſun by the king's predeceſſors. This ſuperſtitious

Chariot || Charity.

tious cuſtom was an imitation of the heathens, and principally of the Perſians, who had horſes and chariots conſecrated in honour of the ſun. Herodotus, Xenophon, and Quintus Curtius, ſpeak of white chariots crowned, which were conſecrated to the ſun, among the Perſians, which in their ceremonies were drawn by white horſes conſecrated to the ſame luminary.

Triumphal CHARIOT, was one of the principal ornaments of the Roman celebration of a victory.

The Roman triumphal chariot was generally made of ivory, round like a tower, or rather of a cyliodrical figure; it was ſometimes gilt at the top, and ornamented with crowns; and to repreſent a victory more naturally, they uſed to ſtain it with blood. It was uſually drawn by four white horſes; but oftentimes by lions, elephants, tygers, bears, leopards, dogs, &c.

CHARISIA, in the heathen theology, a wake, or night-feſtival, inſtituted in honour of the graces. It continued the whole night, moſt of which time was ſpent in dancing; after which, cakes made of yellow flour mixed with honey, and other ſweetmeats, were diſtributed among the aſſiſtants.—Chariſia is alſo ſometimes uſed to ſignify the ſweetmeats uſed on ſuch occaſions.

CHARISIUS, in the heathen theology, a ſurname given to Jupiter. The word is derived from χαρις, *gratia*, "grace" or "favour;" he being the God by whoſe influence men obtain the favour and affection of one another. On which account the Greeks uſed at their meals to make a libation of a cup to Jupiter Chariſius.

CHARISTIA, a feſtival of the ancient Romans, celebrated in the month of February, wherein the relations by blood and marriage met, in order to preſerve a good correſpondence; and that if there happened to be any difference among them, it might be the more eaſily accommodated, by the good humour and mirth of the entertainment. *Ovid. Faſt.* i. 617.

CHARISTICARY, commendatory, or donatory, a perſon to whom is given the enjoyment of the revenues of a monaſtery, hoſpital, or benefice.

The chariſticaries among the Greeks, were a kind of donatories, or commendatories, who enjoyed all the revenues of hoſpitals and monaſteries, without giving an account thereof to any perſon.—The original of this abuſe is referred to the Iconoclaſtæ, particularly Conſtantine Copronymus, the avowed enemy of the monks, whoſe monaſteries he gave away to ſtrangers. In after times, the emperors and patriarchs gave many to people of quality, not by way of gift, to reap any temporal advantage from them; but to repair, beautify, and patronize them. At length avarice crept in, and thoſe in good condition were given away, eſpecially ſuch as were rich; and at laſt they were all given away, rich and poor, thoſe of men and of women, and that to laymen and married men.

CHARITY, among divines, one of the three grand theological virtues, conſiſting in the love of God and of our neighbour, or the habit and diſpoſition of loving God with all our heart, and our neighbour as ourſelves.

CHARITY is alſo uſed for the effect of a moral virtue, which conſiſts in ſupplying the neceſſities of others, whether with money, counſel, aſſiſtance, or the like.

Charity.

As pecuniary relief is generally the moſt efficacious, and at the ſame time that from which we are moſt apt to exeuſe ourſelves, this branch of the duty merits particular illuſtration; and a better cannot be offered than what is contained in the following extracts (if we may be permitted to make them) from the elegant *Moral Syſtem* of Archdeacon *Paley*.

Whether pity be an inſtinct or a habit, it is in fact a property of our nature, which God appointed: and the final cauſe for which it was appointed, is to afford to the miſerable, in the compaſſion of their fellow creatures, a remedy for thoſe inequalities and diſtreſſes which God foreſaw that many muſt be expoſed to, under every general rule for the diſtribution of property.

The Chriſtian ſcriptures are more copious and explicit upon this duty than almoſt any other. The deſcription which Chriſt hath left us of the proceedings of the laſt day, eſtabliſhes the obligation of bounty beyond controverſy. "When the Son of man ſhall come in his glory, and all the holy angels with him, then ſhall he ſit upon the throne of his glory, and before him ſhall be gathered all nations; and he ſhall ſeparate them one from another. Then ſhall the king ſay unto them on his right hand, Come ye bleſſed of my father, inherit the kingdom prepared for you from the foundation of the world: For I was an hungered, and ye gave me meat; I was thirſty, and ye gave me drink; I was a ſtranger, and ye took me in; naked, and ye clothed me; I was ſick, and ye viſited me; I was in priſon, and ye came unto me. And inaſmuch as ye have done it to one of the leaſt of theſe my brethren, ye have done it unto me." It is not neceſſary to underſtand this paſſage as a literal account of what will actually paſs on that day. Suppoſing it only a ſcenical deſcription of the rules and principles by which the Supreme Arbiter of our deſtiny will regulate his deciſions, it conveys the ſame leſſon to us; it equally demonſtrates of how great value and importance theſe duties in the ſight of God are, and what ſtreſs will be laid upon them. The apoſtles alſo deſcribe this virtue as propitiating the divine favour in an eminent degree. And theſe recommendations have produced their effect. It does not appear that, before the times of Chriſtianity, an infirmary, hoſpital, or public charity of any kind, exiſted in the world; whereas moſt countries in Chriſtendom have long abounded with theſe inſtitutions. To which may be added, that a ſpirit of private liberality ſeems to flouriſh amidſt the decay of many other virtues: not to mention the legal proviſion for the poor, which obtains in this country, and which was unknown and unthought of by the moſt poliſhed nations of antiquity.

St Paul adds upon the ſubject an excellent direction; and which is practicable by all who have any thing to give. "Upon the firſt day of the week (or any other ſtated time) let every one of you lay by in ſtore, as God hath proſpered him." By which the apoſtle may be underſtood to recommend what is the very thing wanting with moſt men, *the being charitable upon a plan*; that is, from a deliberate compariſon of our fortunes with the reaſonable expences and expectations of our families, to compute what we can ſpare, and to lay by ſo much for charitable purpoſes, in ſome mode or other. The mode will be a conſideration afterwards.

The

Charity. The effect, which Chriſtianity produced upon ſome of its converts, was ſuch as might be looked for from a divine religion coming with full force and miraculous evidence upon the conſciences of mankind. It overwhelmed all worldly conſiderations in the expectation of a more important exiſtence. "And the multitude of them that believed were of one heart and of one ſoul; neither ſaid any of them that aught of the things, which he poſſeſſed, was his own; but they had all things in common.—Neither was there any among them that lacked; for as many as were poſſeſſors of lands or houſes ſold them, and brought the prices of the things that were ſold, and laid them down at the apoſtles' feet; and diſtribution was made unto every man, according as he had need." Acts iv. 32.

Nevertheleſs, this community of goods, however it manifeſted the ſincere zeal of the primitive Chriſtians, is no precedent for our imitation. It was confined to the church at Jeruſalem; continued not long there; was never enjoined upon any (Acts v. 4.); and, although it might ſuit with the particular circumſtances of a ſmall and ſelect ſociety, is altogether impracticable in a large and mixed community.

The conduct of the apoſtles upon the occaſion deſerves to be noticed. Their followers laid down their fortunes at their feet: but ſo far were they from taking advantage of this unlimited confidence to enrich themſelves or eſtabliſh their authority, that they ſoon after got rid of this buſineſs as inconſiſtent with the main object of their miſſion, and transferred the cuſtody and management of the public fund to deacons, elected to that office by the people at large. (Acts vi.)

There are three kinds of charity, our author obſerves, which prefer a claim to attention.

1. The firſt, and apparently one of the beſt, is to give ſtated and conſiderable ſums, by way of penſion or annuity to individuals or families, with whoſe behaviour and diſtreſs we ourſelves are acquainted. In ſpeaking of conſiderable ſums, it is meant only, that five pounds, or any other ſum, given at once, or divided amongſt five or fewer families, will do more good than the ſame ſum diſtributed amongſt a greater number in ſhillings or half crowns; and that, becauſe it is more likely to be properly applied by the perſons who receive it. A poor fellow, who can find no better uſe for a ſhilling than to drink his benefactor's health, and purchaſe half an hour's recreation for himſelf, would hardly break into a guinea for any ſuch purpoſe, or be ſo improvident as not to lay it by for an occaſion of importance, for his rent, his clothing, fuel, or ſtock of winter's proviſion. It is a ſtill greater recommendation of this kind of charity, that penſions and annuities, which are paid regularly, and can be expected at the time, are the only way by which we can prevent one part of a poor man's ſufferings, the dread of want.

2. But as this kind of charity ſuppoſes that proper objects of ſuch expenſive benefactions fall within our private knowledge and obſervation, which does not happen to all, a ſecond method of doing good, which is in every one's power who has the money to ſpare, is by ſubſcription to public charities. Public charities admit of this argument in their favour, that your money goes farther towards attaining the end for which it is given, than it can do by any private and ſeparate beneficence. A guinea, for example, contributed to an infirmary, becomes the means of providing one patient, at leaſt, with a phyſician, ſurgeon, apothecary; with medicine, diet, lodging, and ſuitable attendance; which is not the tenth part of what the ſame aſſiſtance, if it could be procured at all, would coſt to a ſick perſon or family in any other ſituation. Charity.

3. The laſt, and, compared with the former, the loweſt exertion of benevolence, is in the relief of beggars. Nevertheleſs, the indiſcriminate rejection of all who implore our alms in this way, is by no means approved. Some may periſh by ſuch a conduct. Men are ſometimes overtaken by diſtreſs, for which all other relief would come too late. Beſides which, reſolutions of this kind compel us to offer ſuch violence to our humanity, as may go near, in a little while, to ſuffocate the principle itſelf; which is a very ſerious conſideration. A good man, if he do not ſurrender himſelf to his feelings without reſerve, will at leaſt lend an ear to importunities which come accompanied with outward atteſtations of diſtreſs; and after a patient hearing of the complaint, will direct himſelf by the circumſtances and credibility of the account that he receives.

There are other ſpecies of charity well contrived to make the money expended *go far*; ſuch as keeping down the price of fuel or proviſion in caſe of a monopoly or temporary ſcarcity, by purchaſing the articles at the beſt market, and retailing them at prime coſt, or at a ſmall loſs; or the adding a bounty to a particular ſpecies of labour, when the price is accidentally depreſſed.

The proprietors of large eſtates have it in their power to facilitate the maintenance, and thereby encourage the eſtabliſhment of families (which is one of the nobleſt purpoſes to which the rich and great can convert their endeavours), by building cottages, ſplitting farms, erecting manufactures, cultivating waſtes, embanking the ſea, draining marſhes, and other expedients, which the ſituation of each eſtate points out. If the profits of theſe undertakings do not repay the expence, let the authors of them place the difference to the account of charity. It is true of almoſt all ſuch projects, that the public is a gainer by them, whatever the owner be. And where the loſs can be ſpared, this conſideration is ſufficient.

It is become a queſtion of ſome importance, Under what circumſtances works of charity ought to be done in private, and when they may be made public without detracting from the merit of the action; if indeed they ever may the Author of our religion having delivered a rule upon this ſubject, which ſeems to enjoin univerſal ſecrecy. "When thou doeſt alms, let not thy left hand know what thy right hand doth; that thy alms may be in ſecret, and thy Father which ſeeth in ſecret, himſelf ſhall reward thee openly." (Matth. vi. 3. 4.) From the preamble to this prohibition, it is plain, that our Saviour's ſole deſign was to forbid *oſtentation*, and all publiſhing of good works which proceeds from that motive. "Take heed that ye do not your alms before men, *to be ſeen of them*; otherwiſe ye have no reward of your Father, which is in heaven: therefore, when thou doeſt thine alms, do not ſound a trumpet before thee, as the hypocrites do, in the ſynagogues and in the ſtreets, *that they may have glory of*

Charity. men. Verily I say unto thee, they have their reward," v. 2. There are motives for the doing our alms in public beside those of ostentation; with which therefore our Saviour's rule has no concern: such as to testify our approbation of some particular species of charity, and to recommend it to others; to take off the prejudice which the want, or, which is the same thing, the suppression, of our name in the list of contributors, might excite against the charity or against ourselves. And, so long as these motives are free from any mixture of vanity, they are in no danger of invading our Saviour's prohibition: they rather seem to comply with another direction which he has left us: "Let your light so shine before men, that they may see your good works, and glorify your father which is in heaven." If it be necessary to propose a precise distinction upon the subject, there can be none better than the following: When our bounty is beyond our fortune or station, that is, when it is more than could be expected from us, our charity should be private, if privacy be practicable; when it is not more than might be expected, it may be public: for we cannot hope to influence others to the imitation of extraordinary generosity, and therefore want, in the former case, the only justifiable reason for making it public.

The pretences by which men excuse themselves from giving to the poor, are various; as,

1. "That they have nothing to spare;" i. e. nothing, for which they have not some other use; nothing, which their plan of expence, together with the savings they have resolved to lay by, will not exhaust: never reflecting whether it be in their power, or that it is their duty, to retrench their expences, and contract their plan, "that they may have to give to them that need;" or rather that this ought to have been part of their plan originally.

2. "That they have families of their own, and that charity begins at home." A father is no doubt bound to adjust his œconomy with a view to the reasonable demands of his family upon his fortune; and until a sufficiency for these is acquired, or in due time probably will be acquired (for in human affairs probability is enough), he is justified in declining *expensive* liberality; for to take from those who want, in order to give to those who want, adds nothing to the stock of public happiness. Thus far, therefore, and no farther, the plea in question is an excuse for parsimony, and an answer to those who solicit our bounty.

3. "That charity does not consist in giving money, but in benevolence, philanthropy, love to all mankind, goodness of heart," *&c.* Hear St James. "If a brother or sister be naked, and destitute of daily food, and one of you say unto them, depart in peace, be ye warmed and filled, notwithstanding *ye give them not those things which are needful to the body*, what doth it profit?" (James ii. 15, 16.)

4. "That giving to the poor is not mentioned in St Paul's description of charity, in the 13th chapter of his first epistle to the Corinthians." This is not a description of charity, but of good nature; and it is not necessary that every duty be mentioned in every place.

5. "That they pay the poor-rates." They might as well allege that they pay their debts; for the poor have the same right to that portion of a man's property, which the laws assign them, that the man himself has to the remainder. Charity.

6. "That they employ many poor persons:"—for their own sake, not the poor's—otherwise it is a good plea.

7. "That the poor do not suffer so much as we imagine; that education and habit have reconciled them to the evils of their condition, and make them easy under it." Habit can never reconcile human nature to the extremities of cold, hunger, and thirst, any more than it can reconcile the hand to the touch of a red-hot iron: besides, the question is not, how unhappy any one is, but how much more happy we can make him.

8. "That these people, give them what you will, will never thank you, or think of you for it." In the first place, this is not true: in the second place, it was not for the sake of their thanks that you relieved them.

9. "That we are so liable to be imposed upon." If a due enquiry be made, our motive and merit is the same: beside that, the distress is generally real, whatever has been the cause of it.

10. "That they should apply to their parishes." This is not always practicable: to which we may add, that there are many requisites to a comfortable subsistence, which parish-relief does not always supply; and that there are some who would suffer almost as much from receiving parish-relief as by the want of it: and lastly, that there are many modes of charity, to which this answer does not relate at all.

11. "That giving money encourages idleness and vagrancy." This is true only of injudicious and indiscriminate generosity.

12. "That we have too many objects of charity at home to bestow any thing upon strangers; or that there are other charities which are more useful, or stand in greater need." The value of this excuse depends entirely upon the *fact*, whether we actually relieve those neighbouring objects, and contribute to those other charities.

Beside all these excuses, pride, or prudery, or delicacy, or love of ease, keep one half of the world out of the way of observing what the other half suffer.

Charity Schools, are schools erected and maintained in various parishes by the voluntary contributions of the inhabitants, for teaching poor children to read, write, and other necessary parts of education. See School.

Brothers of Charity, a sort of religious hospitallers, founded about the year 1297, since denominated *Billetins*. They took the third order of St Francis, and the scapulary, making three usual vows, but without begging.

Brothers of Charity also denote an order of hospitallers still subsisting in Romish countries, whose business is to attend the sick poor, and minister to them both spiritual and temporal succour.

They are all laymen, except a few priests, for administering the sacraments to the sick in their hospitals. The brothers of charity usually cultivate botany, pharmacy, surgery, and chemistry, which they practise with success.

They were first founded at Granada, by St John de Dieu;

Charity of Charlemont.

Dieu; and a second establishment was made at Madrid in the year 1553: the order was confirmed by Gregory XIII. in 1572: Gregory XIV. forbad them to take holy orders; but by leave of Paul V. in 1609, a few of the brothers might be admitted to orders. In 1619 they were exempted from the jurisdiction of the bishop. Those of Spain are separated from the rest; and they, as well as the brothers of France, Germany, Poland, and Italy, have their distinct generals, who reside at Rome. They were first introduced into France by Mary of Medicis in 1601, and have since built a fine hospital in the Fauxbourg St Germain.

Charity of St Hippolitus, a religious congregation founded about the end of the 14th century, by one Bernardin Alvarez, a Mexican, in honour of St Hippolitus the martyr, patron of the city of Mexico; and approved by Pope Gregory XIII.

Charity of our Lady, in church-history, a religious order in France, which, though charity was the principal motive of their union, grew in length of time so disorderly and irregular, that their order dwindled, and at last became extinct.

There is still at Paris a religious order of women, called *nuns hospitallers of the charity of our lady*. The religious of this hospital are by vow obliged to administer to the necessities of the poor and the sick, but those only women.

CHARLATAN, or Charletan, signifies an empiric or quack, who retails his medicines on a public stage, and draws people about him with his buffooneries, feats of activity, &c. The word, according to Calepine, comes from the Italian *ceretano*; of *Ceretum*, a town near Spoletto in Italy, where these impostors are said to have first risen. Menage derives it from *ciarlatano*, and that from *circulatorius*, of *circulator*, a quack.

CHARLEMAGNE, or Charles I. king of France by succession, and emperor of the west by conquest in 800, (which laid the foundation of the dynasty of the western Franks, who ruled the empire 472 years till the time of Radolphus Auspurgensis, the founder of the house of Austria). Charlemagne was as illustrious in the cabinet as in the field; and, though he could not write his name, was the patron of men of letters, the restorer of learning, and a wise legislator: he wanted only the virtue of humanity to render him the most accomplished of men; but when we read of his beheading 4500 Saxons, solely for their loyalty to their prince, in opposing his conquests, we cannot think he merits the extravagant encomiums bestowed on him by some historians. He died in 814, in the 74th year of his age, and 47th of his reign.

France had nine sovereigns of this name, of whom Charles V. merited the title of *the wise*, (crowned in 1364, died in 1380): and Charles VIII. signalized himself in the field by rapid victories in Italy; crowned 1483, died in 1498. The rest do not deserve particular mention in this place. See *(History of)* France.

CHARLEMONT, a town of the province of Namur in the Austrian Netherlands, about 18 miles south of Namur. E. Long. 4. 40. N. Lat. 50. 10.

Charlemont is also the name of a town of Ireland, situated on the river Blackwater, in the county of Armagh, and province of Ulster, about six miles south-east of Dungannon. W. Long. 6. 50. N. Lat. 50. 16. Charlemont, Charo

CHARLEROY, a strong town in the province of Namur, in the Austrian Netherlands, situated on the river Sambre, about 19 miles west of Namur. E. Long. 4. 20. N. Lat. 50. 30.

CHARLES Martel, a renowned conqueror in the early annals of France. He deposed and restored Chilperic king of France; and had the entire government of the kingdom, once with the title of *mayor of the palace*, and afterwards as *duke of France*; but he would not accept the crown. He died, regretted, in 741.

Charles le Gros, emperor of the west in 881, king of Italy and Suabia, memorable for his reverse of fortune; being dethroned at a diet held near Mentz, by the French, the Italians, and the Germans, in 887: after which he was obliged to subsist on the bounty of the archbishop of Mentz. He died in 888.

Charles V. (emperor and king of Spain), was son of Philip I. archduke of Austria, and of Jane queen of Castile. He was born at Ghent, February 24. 1500, and succeeded to the crown of Spain in 1517. Two years afterwards he was chosen emperor at Francfort after the death of Maximilian his grandfather. He was a great warrior and politician: and his ambition was not satisfied with the many kingdoms and provinces he possessed; for he is supposed, with reason, to have aspired at universal empire. He is said to have fought 60 battles, in most of which he was victorious. He took the king of France (Francis I.) prisoner, and sold him his liberty on very hard terms: yet afterwards, when the people of Ghent revolted, he asked leave to pass through his dominions; and though the generous king thus had him in his power, and had an opportunity of revenging his ill-treatment, yet he received and attended him with all pomp and magnificence. He sacked Rome, and took the Pope prisoner; and the cruelties which his army exercised there are said to have exceeded those of the northern barbarians. Yet the pious emperor went into mourning on account of this conquest: forbad the ringing of bells; commanded processions to be made, and prayers to be offered up for the deliverance of the Pope his prisoner; yet did not inflict the least punishment on those who treated the holy father and the holy see with such inhumanity. He is accused by some Romish writers of favouring the Lutheran principles, which he might easily have extirpated. But the truth is, he found his account in the divisions which that sect occasioned; and he for ever made his advantage of them, sometimes against the Pope, sometimes against France, and at other times against the empire itself. He was a great traveller, and made 50 different journeys into Germany, Spain, Italy, Flanders, France, England, and Africa. Though he had been successful in many unjust enterprizes, yet his last attempt on Metz, which he besieged with an army of 100,000 men, was very just and very unsuccessful.

Vexed at the reverse of fortune which seemed to attend his latter days, and oppressed by sickness, which unfitted him any longer from holding the reins of government with steadiness, or to guide them with address,

Charles. dreſs, he reſigned his dominions to his brother Ferdinand and his ſon Philip; and retreated to the monaſtery of St Juſtus near Placentia in Eſtramadura.

When Charles entered this retreat, he formed ſuch a plan of life for himſelf as would have ſuited a private gentleman of moderate fortune. His table was neat, but plain; his domeſtics few; his intercourſe with them familiar; all the cumberſome and ceremonious forms of attendance on his perſon were entirely aboliſhed, as deſtructive of that ſocial eaſe and tranquillity which he courted in order to ſooth the remainder of his days. As the mildneſs of the climate, together with his deliverence from the burdens and cares of government, procured him at firſt a conſiderable remiſſion from the acute pains of the gout, with which he had been long tormented, he enjoyed perhaps more complete ſatisfaction in this humble ſolitude than all his grandeur had ever yielded him. The ambitious thoughts and projects which had ſo long engroſſed and diſquieted him, were quite effaced from his mind. Far from taking any part in the political tranſactions of the princes of Europe, he reſtrained his curioſity even from an inquiry concerning them; and he ſeemed to view the buſy ſcene which be had abandoned with all the contempt and indifference ariſing from his thorough experience of its vanity, as well as from the pleaſing reflection of having diſentangled himſelf from its cares.

Other amuſements, and other objects, now occupied him. Sometimes he cultivated the plants in his garden with his own hand; ſometimes he rode out to the neighbouring wood on a little horſe, the only one that he kept, attended by a ſingle ſervant on foot. When his infirmities confined him to his apartment, which often happened, and deprived him of theſe more active recreations, he either admitted a few gentlemen who reſided near the monaſtery to viſit him, and entertained them familiarly at bis table; or he employed himſelf in ſtudying mechanical principles, and in forming curious works of mechaniſm, of which he had always been remarkably fond, and to which his genius was peculiarly turned. With this view he had engaged Turriano, one of the moſt ingenious artiſts of that age, to accompany him in his retreat. He laboured together with him in framing models of the moſt uſeful machines, as well as in making experiments with regard to their reſpective powers; and it was not ſeldom that the ideas of the monarch aſſiſted or perfected the inventions of the artiſt. He relieved his mind at intervals with ſlighter and more fantaſtic works of mechaniſm, in faſhioning puppets, which, by the ſtructure of internal ſprings, mimicked the geſtures and actions of men, to the no ſmall aſtoniſhment of the ignorant monks, who, beholding movements which they could not comprehend, ſometimes diſtruſted their own ſenſes, and ſometimes ſuſpected Charles and Torriano of being in compact with inviſible powers. He was particularly curious with regard to the conſtruction of clocks and watches; and having found, after repeated trials, that he could not bring any two of them to go exactly alike, he reflected, it is ſaid, with a mixture of ſurpriſe as well as regret on his own folly, in having beſtowed ſo much time and labour in the more vain attempt of bringing mankind to a preciſe uniformity of ſentiment concerning the intricate and myſterious doctrines of religion. Charles.

But in what manner ſoever Charles diſpoſed of the reſt of his time, he conſtantly reſerved a conſiderable portion of it for religious exerciſes. He regularly attended divine ſervice in the chapel of the monaſtery every morning and evening; he took great pleaſure in reading books of devotion, particolarly the works of St Auguſtine and St Bernard; and converſed much with his confeſſor, and the prior of the monaſtery, on pious ſubjects. Thus did Charles paſs the firſt year of his retreat in a manner not unbecoming a man perfectly diſengaged from the affairs of this preſent life, and ſtanding on the confines of a future world, either in innocent amuſements which ſoothed his pains, and relieved a mind worn out with exceſſive application to buſineſs; or in devout occupations, which he deemed neceſſary in preparing for another ſtate.

But, about ſix months before his death, the gout, after a longer intermiſſion than uſual, returned with a proportional increaſe of violence. His ſhattered conſtitution had not ſtrength enough remaining to withſtand ſuch a ſhock. It enfeebled his mind as much as his body; and from this period we hardly diſcern any traces of that ſound and maſculine underſtanding which diſtinguiſhed Charles among his cotemporaries. An illiberal and timid ſuperſtition depreſſed his ſpirit. He had no reliſh for amuſements of any kind. He endeavoured to conform, in his manner of living, to all the rigour of monaſtic auſterity. He deſired no other ſociety than that of monks, and was almoſt continually employed in chanting with them the hymns of the miſſal. As an expiation for his ſins, he gave himſelf the diſcipline in ſecret with ſuch ſeverity, that the whip of cords which he employed as the inſtrument of his puniſhment, was found, after his deceaſe, ſtained with his blood. Nor was he ſatisfied with theſe acts of mortification, which, however ſevere, were not unexampled. The timorous and diſtruſtful ſolicitude which always accompanies ſuperſtition, ſtill continued to diſquiet him, and depreciating all that he had done, prompted him to aim at ſomething extraordinary, at ſome new and ſingular act of piety, that would diſplay his zeal, and merit the favour of heaven. The act on which he fixed was as wild and uncommon as any that ſuperſtition ever ſuggeſted to a diſordered fancy. He reſolved to celebrate his own obſequies before his death. He ordered his tomb to be erected in the chapel of the monaſtery. His domeſtics marched thither in funeral proceſſion, with black tapers in their hands. He himſelf followed in his ſhroud. He was laid in his coffin with much ſolemnity. The ſervice for the dead was chanted; and Charles joined in the prayers which were offered up for the reſt of his ſoul, mingled his tears with thoſe which his attendants ſhed, as if they had been celebrating a real funeral. The ceremony cloſed with ſprinkling holy water on the coffin in the uſual form, and, all the aſſiſtants retiring, the doors of the chapel were ſhut. Then Charles roſe out of the coffin, and withdrew to his apartment, full of thoſe awful ſentiments which ſuch a ſingular ſolemnity was calculated to inſpire. But either the fatiguing length of the ceremony,

Charles. remooy, or the impreſſion which this image of death left on his mind, affected him ſo much, that next day he was ſeized with a fever. His feeble frame could not long reſiſt its violence; and he expired on the 21ſt of September, after a life of 58 years ſix months and 21 days.

CHARLES I. } Kings of Britain. See BRITAIN,
CHARLES II. } n° 49, —— 254.

CHARLES XII. king of Sweden, was born in 1682. By his father's will, the adminiſtration was lodged in the hands of the queen-dowager Eleonora with five ſenators, till the young prince was 18: but he was declared major at 15, by the ſtates convened at Stockholm. The beginning of his adminiſtration raiſed no favourable ideas of him, as he was thought both by Swedes and foreigners to be a perſon of mean capacity. But the difficulties that gathered round him, ſoon afforded him an opportunity to diſplay his real character. Three powerful princes, Frederic king of Denmark, Auguſtus king of Poland and elector of Saxony, and Peter the Great czar of Muſcovy, preſuming on his youth, conſpired his ruin almoſt at the ſame inſtant. Their meaſures alarming the council, they were for diverting the ſtorm by negociations; but Charles, with a grave reſolution that aſtoniſhed them, ſaid, "I am reſolved never to enter upon an unjuſt "war, nor to put an end to a juſt one but by the "deſtruction of my enemies. My reſolution is fix-"ed: I will attack the firſt who ſhall declare againſt "me; and when I have conquered him, I may hope "to ſtrike a terror into the reſt." The old counſellors received his orders with admiration; and were ſtill more ſurpriſed when they ſaw him on a ſudden renounce all the enjoyments of a court, reduce his table to the utmoſt frugality, dreſs like a common ſoldier, and, full of the ideas of Alexander and Cæſar, propoſe thoſe two conquerors for his models in every thing but their vices. The king of Denmark began by ravaging the territories of the duke of Holſtein. Upon this Charles carried the war into the heart of Denmark; and made ſuch a progreſs, that the king of Denmark thought it beſt to accept of peace, which was concluded in 1700. He next reſolved to advance againſt the king of Poland, who had blocked up Riga. He had no ſooner given orders for his troops to go into winter-quarters, than he received advice that Narva, where count Horne was governor, was beſieged by an army of 100,000 Muſcovites. This made him alter his meaſures, and move toward the Czar; and at Narva he gained a ſurpriſing victory, which coſt him not above 2000 men killed and wounded. The Muſcovites were forced to retire from the provinces they had invaded. He purſued his conqueſts, till he penetrated as far as where the diet of Poland was ſitting; when he made them declare the throne of Poland vacant, and elect Staniſlaus their king: then making himſelf maſter of Saxony, he obliged Auguſtus himſelf to renounce the crown of Poland, and acknowledge Staniſlaus by a letter of congratulation on his acceſſion. All Europe was ſurpriſed with the expeditious finiſhing of this great negociation, but more at the diſintereſtedneſs of the king of Sweden, who ſatisfied himſelf with the bare reputation of this victory, without demanding an inch of ground for enlarging his dominions. After thus reducing the king of Denmark to peace, placing a new king on the throne of Poland, having humbled the emperor of Germany, and protected the Lutheran religion, Charles prepared to penetrate into Muſcovy in order to dethrone the Czar. He quickly obliged the Muſcovites to abandon Poland, purſued them into their own country, and won ſeveral battles over them. The Czar, diſpoſed to peace, ventured to make ſome propoſals; Charles only anſwered, "I will treat with "the Czar at Moſcow." When this haughty anſwer was brought to Peter, he ſaid, "My brother Charles "ſtill affects to act the Alexander, but I flatter my-"ſelf he will not in me find a Darius." The event juſtified him: for the Muſcovites, already beaten into diſcipline, and under a prince of ſuch talents as Peter, entirely deſtroyed the Swediſh army at the memorable battle of Pultowa, July 8. 1709; on which deciſive day, Charles loſt the fruits of nine years labour, and of almoſt 100 battles! The king, with a ſmall troop, purſued by the Muſcovites, paſſed the Boriſthenes to Oczakow in the Turkiſh territories: and from thence, through deſert countries, arrived at Bender; where the Sultan, when informed of his arrival, ſent orders for accommodating him in the beſt manner, and appointed him a guard. Near Bender Charles built a houſe, and intrenched himſelf; and had with him 1800 men, who were all clothed and fed, with their horſes, at the expence of the Grand Signior. Here he formed a deſign of turning the Ottoman arms upon his enemies; and is ſaid to have had a promiſe from the Vizir of being ſent into Muſcovy with 200,000 men. While he remained here, he inſenſibly acquired a taſte for books: he read the tragedies of Corneille and Racine, with the works of Deſpreaux, whoſe ſatires he reliſhed, but did not much admire his other works. When he read that paſſage in which the author repreſents Alexander as a fool and a madman, he tore out the leaf. He would ſometimes play at cheſs: but when he recovered of his wounds, he renewed his fatigues in exerciſing his men; he tired three horſes a day; and thoſe who courted his favour were all day in their boots. To diſpoſe the Ottomao Porte to this war, he detached about 800 Poles and Coſaques of his retinue, with orders to paſs the Neiſter, that runs by Bender, and to obſerve what paſſed on the frontiers of Poland. The Muſcovite troops, diſperſed in thoſe quarters, fell immediately upon this little company, and purſued them even to the territories of the Grand Signior. This was what the king expected. His miniſters at the Porte excited the Turks to vengeance; but the Czar's money removed all difficulties, and Charles found himſelf in a manner priſoner among the Tartars. He imagined the Sultan was ignorant of the intrigues of his Grand Vizir. Poniatoſky undertook to make his complaints to the Grand Signior. The ſultan, in anſwer, ſome days after, ſent Charles five Arabian horſes, one of which was covered with a ſaddle and houſing of great riches; with an obliging letter, but conceived in ſuch general terms, as gave reaſon to ſuſpect that the miniſter had done nothing without the ſultan's conſent: Charles therefore refuſed them. Poniatoſky had the courage to form a deſign of depoſing the Grand Vizir; who

Charles.

Charles. who accordingly was deprived of his dignity and wealth, and baniſhed. The ſeal of the empire was given to Numan Cuproughly: who perſuaded his maſter, that the law forbid him to invade the Czar, who had done him no injury; but to ſuccour the king of Sweden as an unfortunate prince in his dominions. He ſent his majeſty 800 purſes, every one of which amounted to 500 crowns, and adviſed him to return peaceably to his own dominions. Charles rejected this advice, threatening to hang up the baſhaws, and ſhave the beards of any Janiſaries who brought him ſuch meſſages; and ſent word that he ſhould depend upon the Grand Signior's promiſe, and hoped to reenter Poland as a conqueror with an army of Turks. After various intrigues at the Porte, an order was ſent to attack this *head of iron*, as he was called, and to take him either alive or dead. He ſtood a ſiege in his houſe, with forty domeſtics, againſt the Turkiſh army; killed no leſs than 20 Janiſaries with his own hand; and performed prodigies of valour on a very unneceſſary and unwarrantable occaſion. But the houſe being ſet on fire, and himſelf wounded, he was at laſt taken priſoner, and ſent to Adrianople; where the Grand Signior gave him audience, and promiſed to make good all the damages he had ſuſtained. At laſt, after a ſtay of above five years, he left Turkey; and, having diſguiſed himſelf, traverſed Wallachia, Tranſylvania, Hungary, and Germany, attended only by one perſon: and in 16 days riding, during which time he never went to bed, came to Stralſund at midnight, November 21. 1714. His boots were cut from his ſwollen legs, and he was put to bed; where when he had ſlept ſome hours, the firſt thing he did was to review his troops, and examine the ſtate of the fortifications. He ſent out orders that very day, to renew the war with more vigour than ever. But affairs were now much changed: Auguſtus had recovered the throne of Poland; Sweden had loſt many of its provinces, and was without money, trade, credit, or troops. The kings of Denmark and Pruſſia ſeized the iſland of Rugen; and beſieged him in Stralſund, which ſurrendered; but Charles eſcaped to Carelſcroon. When his country was threatened with invaſion by ſo many princes, he, to the ſurpriſe of all Europe, marched into Norway with 20,000 men. A very few Danes might have ſtopped the Swediſh army; but ſuch a quick invaſion they could not foreſee. Europe was yet more at a loſs to find the Czar ſo quiet, and not making a deſcent upon Sweden, as he had before agreed with his allies. This inaction was the conſequence of one of the greateſt deſigns, and at the ſame time the moſt difficult of any that were ever formed by the imagination of man. In ſhort, a ſcheme was ſet on foot for a reconciliation with the Czar; for replacing Staniſlaus on the throne of Poland; and ſetting James the ſecond's ſon upon that of England, beſide reſtoring the duke of Holſtein to his dominions. Charles was pleaſed with theſe grand ideas, though without building much upon them, and gave his miniſter leave to act at large. In the mean time, Charles was going to make a ſecond attempt upon Norway in 1718; and he flattered himſelf with being maſter of that kingdom in ſix months: but while he was examining the works at Frederickſhall, a place of great ſtrength and importance, which is reckoned to be the key of that kingdom, he was killed by a ſhot from the enemy, as has been generally believed; though it has been alſo reported that he fell by the treachery of one of his own officers, who had been bribed for that purpoſe. Charles

This prince experienced the extremes of proſperity and of adverſity, without being ſoftened by the one, or diſturbed for a moment at the other; but was a man rather extraordinary than great, and fitter to be admired than imitated. He was honoured by the Turks for his rigid abſtinence from wine, and his regularity in attending public devotion.

As to his perſon, he was tall and of a noble mien, had a fine open forehead, large blue eyes, flaxen hair, fair complexion, an handſome noſe, but little beard, and a laugh not agreeable. His manners were barſh and auſtere, not to ſay ſavage: and as to religion, he was indifferent towards all, though exteriouſly a Lutheran, and a ſtrong believer in predeſtination. A few anecdotes will illuſtrate his character. No dangers, however great, made the leaſt impreſſion upon him. When a horſe or two were killed under him at the battle of Narva in 1700, he leaped nimbly upon freſh ones, ſaying, "theſe people find me exerciſe." One day, when he was dictating letters to a ſecretary, a bomb fell through the roof into the next room of the houſe, where they were ſitting. The ſecretary, terrified leſt the houſe ſhould come down upon them, let his pen drop out of his hand: "What is the matter," ſays the king calmly. The ſecretary could only reply, "Ah, Sir, the bomb." "The bomb (ſays the king)! what has the bomb to do with what I am dictating to you? Go on."

He preſerved more humanity than is uſually found among conquerors. Once, in the middle of an action, finding a young Swediſh officer wounded and unable to march, he obliged the officer to take his horſe, and continued to command his infantry on foot. The princeſs Lubomirſki, who was very much in the intereſt and good graces of Auguſtus, falling by accident into the hands of one of his officers, he ordered her to be ſet at liberty; ſaying, "that he did not make war with women." One day, near Leipſic, a peaſant threw himſelf at his feet, with a complaint againſt a grenadier, that he had robbed him of certain eatables provided for himſelf and his family. "Is it true (ſaid Charles ſternly), that you have robbed this man?" The ſoldier replied, "Sir, I have not done near ſo much harm to this man as your majeſty has done to his maſter; for you have taken from Auguſtus a kingdom, whereas I have only taken from this poor ſcoundrel a dinner." Charles made the peaſant amends, and pardoned the ſoldier for his firmneſs: "However, my friend (ſays he to him), you will do well to recollect, that if I took a kingdom from Auguſtus, I did not take it for myſelf."

Though Charles lived hardily himſelf, a ſoldier did not fear to remonſtrate to him againſt ſome bread, which was very black and mouldy, and which yet was the only proviſion the troops had. Charles called for a piece of it, and calmly eat it up; ſaying, "that it was indeed not good, but that it might be eaten." From the danger he was in in Poland, when he beat

the

Charles's ‖ Charlotte's.

the Saxon troops in 1702, a comedy was exhibited at Marienburg, where the combat was repreſented to the diſadvantage of the Swedes. "Oh, (ſays Charles, hearing of it), I am far from envying them in this pleaſure. Let them beat me upon the theatres as long as they will, provided I do but beat them in the field." He wrote ſome obſervations on war, and on his own campaigns from 1700 to 1709; but the MS. was loſt at the unfortunate battle of Pultowa.

CHARLES's-CAPE, a promontory of Virginia, in North America, forming the northern head-land of the ſtrait that enters the bay of Cheaſepeak.

Charles's-Fort, a fortreſs in the county of Cork, and province of Munſter, in Ireland, ſituated at the mouth of Kinſale harbour. W. Long. 8. 20. and N. Lat. 51. 21.

Charles's-Town, or *Charleſtown*, the capital of South Carolina, in North America, ſituated on a peninſula formed by Aſhley and Cooper rivers, the former of which is navigable for ſhips twenty miles above the town. W. Long. 79. 0. and N. Lat. 32. 30.

Charles's-Wain, in aſtronomy, ſeven ſtars in the conſtellation called *urſa major* or the Great Bear.

CHARLETON, an iſland at the bottom of Hudſon's-bay, in North America, ſubject to Great Britain. W. Long. 80. 0. and N. Lat. 52. 30.

CHARLETON (Walter), a learned Engliſh phyſician born in 1619, was phyſician in ordinary to Charles I. and Charles II. one of the firſt members of the royal ſociety, and preſident of the college of phyſicians. He wrote on various ſubjects; but at laſt his narrow circumſtances obliged him to retire to the iſland of Jerſey, were he died in 1707.

CHARLOCK, the Engliſh name of the RAPHANUS; it is a very troubleſome weed among corn, being more frequent than almoſt any other. There are two principal kinds of it; the one with a yellow flower, the other with a white. Some fields are particularly ſubject to be over-run with it, eſpecially thoſe which have been manured with cow-dung alone, that being a manure very favourable to the growth of it. The farmers in ſome places are ſo ſenſible of this, that they always mix horſe-dung with their cow-dung, when they uſe it for arable land. When barley, as is often the caſe, is infeſted with this weed to ſuch a degree as to endanger the crop, it is a very good method to mow down the charlock in May, when it is in flower, cutting it ſo low as juſt to take off the tops of the leaves of barley with it: by this means the barley will get up above the weed; and people have got four quarters of grain from an acre of ſuch land as would have ſcarce yielded any thing without this expedient. Where any land is particularly ſubject to this weed, the beſt method is to ſow it with graſs-ſeed, and make a paſture of it; for then the plant will not be troubleſome, it never growing where there is a coat of graſs upon the ground.

Queen CHARLOTTE's ISLAND, an iſland in the South Sea, firſt diſcovered by captain Wallis in the Dolphin, in 1767, who took poſſeſſion of it in the name of King George III. Here is good water, and plenty of cocoa-nuts, palm-nuts, and ſcurvy-graſs. The inhabitants are of a middle ſtature, and dark complection, with long hair hanging over their ſhoulders; the men are well made, and the women handſome: their cloathing is a kind of coarſe cloth, or matting, which they faſten about their middle.

Charm ‖ Charteretier

Queen Charlotte's Iſlands, a cluſter of South-ſea iſlands diſcovered in 1767 by captain Carteret. He counted ſeven, and there were ſuppoſed to be many more. The inhabitants of theſe iſlands are deſcribed as extremely nimble and vigorous, and almoſt as well qualified to live in the water as upon land: they are very warlike; and, on a quarrel with ſome of captain Carteret's people, they attacked them with great reſolution; mortally wounded the maſter and three of the ſailors; were not at all intimidated by the fire-arms; and at laſt, notwithſtanding the averſion of captain Carteret to ſhed blood, he was obliged to ſecure the watering places by firing grape-ſhot into the woods, which deſtroyed many of the inhabitants. Theſe iſlands lie in S. Lat. 11°. E. Long. 164°. They are ſuppoſed to be the Santa Cruz of Mendana, who died there in 1595.

CHARM, a term derived from the Latin *carmen*, a "verſe;" and uſed to denote a magic power, or ſpell, by which, with the aſſiſtance of the devil, ſorcerers and witches were ſuppoſed to do wonderful things, far ſurpaſſing the power of nature.

CHARNEL, or CHARNEL-HOUSE, a kind of portico or gallery, uſually in or near a church-yard, over which were anciently laid the bones of the dead, after the fleſh was wholly conſumed. Charnel-houſes are now uſually adjoining to the church.

CHARON, in fabulous hiſtory, the ſon of Erebus and Nox, whoſe office was to ferry the ſouls of the deceaſed over the waters of Acheron, for which each ſoul was to pay a piece of money. For this reaſon the Pagans had a cuſtom of putting a piece of money into the mouth of the dead, in order that they might have ſomething to pay Charon for their paſſage.

CHARONDAS, a celebrated legiſlator of the Thurians, and a native of Catanea in Sicily, flouriſhed 446 before Chriſt. He forbad any perſon's appearing armed in the public aſſemblies of the nation; but one day going thither in haſte, without thinking of his ſword, he was no ſooner made to obſerve his miſtake than he ran it through his body.

CHAROST, a town of France, in Berry, with the title of a duchy. It is ſeated on the river Arnon, E. Long. 2. 15. N. Lat. 46. 56.

CHAROUX, a town of France, in the Bourbonnois, ſeated on an eminence, near the river Sioulle. It has two pariſhes, which are in different dioceſes. E. Long. 3. 15. N. Lat. 46. 10.

CHARPENTIER (Francis), dean of the French academy, was born in 1620. His early capacity inclined his friends to educate him for the bar: but he was much more delighted with the ſtudy of languages and antiquity than of the law; and preferred repoſe to tumult. M. Colbert made uſe of him in eſtabliſhing his new academy of medals and inſcriptions; and no perſon of that learned ſociety contributed more than himſelf toward that noble ſeries of medals which were ſtruck on the conſiderable events that diſtinguiſhed the reign of Louis XIV. He publiſhed ſeveral works, which were all well received; and died in 1702.

CHARR,

Chart ‖ Charta

CHARR, in ichthyology. See SALMO.

CHARRON (Peter), the author of a book intitled *Of Wiſdom*, which gained him great reputation, was born at Paris in the year 1541. After being advocate in the parliament of Paris for five or ſix years, he applied himſelf to divinity; and became ſo great a preacher, that the biſhops of ſeveral dioceſes offered him the higheſt dignities in their gift. He died at Paris, ſuddenly in the ſtreet, November 16. 1603.

CHART, or SEA-CHART, an hydrographical map, or a projection of ſome part of the earth's ſuperficies *in plano*, for the uſe of navigators.

Charts differ very conſiderably from geographical or land-maps, which are of no uſe in navigation. Nor are ſea-charts all of the ſame kind, ſome being what we call plane-charts, others mercator-charts, and others globular charts.

Plane CHART, is a repreſentation of ſome part of the ſuperficies of the terraqueous globe, in which the meridians are ſuppoſed parallel to each other, the parallels of latitude at equal diſtances, and conſequently the degrees of latitude and longitude every where equal to each other. See *PLANE Chart*.

Mercator's CHART, is that where the meridians are ſtraight lines, parallel to each other, and equidiſtant; the parallels are alſo ſtraight lines, and parallel to each other: but the diſtance between them increaſes from the equinoctial towards either pole, in the ratio of the ſecant of the latitude to the radius. See NAVIGATION.

Globular CHART, a meridional projection, wherein the diſtance of the eye from the plane of the meridian, upon which the projection is made, is ſuppoſed to be equal to the ſine of the angle 45°. This projection comes the neareſt of all to the nature of the globe, becauſe the meridians therein are placed at equal diſtances; the parallels alſo are nearly equidiſtant, and conſequently the ſeveral parts of the earth have their proper proportion of magnitude, diſtance, and ſituation, nearly the ſame as on the globe itſelf. See *GLOBULAR Projection*.

Hydrographic CHARTS, ſheets of large paper, whereon ſeveral parts of the land and ſea are deſcribed, with their reſpective coaſts, harbours, ſounds, flats, rocks, ſhelves, ſands, &c. together with the longitude and latitude of each place, and the points of the compaſs. See *MERCATOR's Chart*.

Selenographic CHARTS, particular deſcriptions of the ſpots, appearances, and maculæ of the moon. See ASTRONOMY, n° 63. and 140.

Topographic CHARTS, draughts of ſome ſmall parts of the earth only, or of ſome particular places, without regard to its relative ſituation, as London, York, &c.

CHARTA, or CARTA, primarily ſignifies a ſort of paper made of the plant *papyrus* or *biblus*. See PAPER, and CHARTER.

CHARTA Emporetica, in pharmacy, &c. a kind of paper made very ſoft and porous, uſed to filter withal. See FILTRATION, &c.

CHARTA is alſo uſed in our ancient cuſtoms for a charter, or deed in writing. See CHARTER.

Magna CHARTA, the great charter of the liberties of Britain, and the baſis of our laws and privileges.

Charta.

This charter may be ſaid to derive its origin from king Edward the Confeſſor, who granted ſeveral privileges to the church and ſtate by charter: theſe liberties and privileges were alſo granted and confirmed by king Henry I. by a celebrated great charter now loſt; but which was confirmed or re-enacted by king Henry II. and king John. Henry III. the ſucceſſor of this laſt prince, after having cauſed 12 men make inquiry into the liberties of England in the reign of Henry I. granted a new charter; which was the ſame as the preſent magna charta. This he ſeveral times confirmed, and as often broke; till, in the 37th year of his reign, he went to Weſtminſter-hall, and there, in preſence of the nobility and biſhops, who held lighted candles in their hands, magna charta was read, the king all the time holding his hand to his breaſt, and at laſt ſolemnly ſwearing faithfully and inviolably to obſerve all the things therein contained, &c. Then the biſhops extinguiſhing the candles, and throwing them on the ground, they all cried out, "Thus let him be extinguiſhed, and ſtink in hell, who violates this charter." It is obſerved, that, notwithſtanding the ſolemnity of this confirmation, king Henry, the very next year, again invaded the rights of his people, till the barons entered into a war againſt him; when, after various ſucceſs, he confirmed this charter, and the charter of the foreſt, in the 52d year of his reign.

This charter confirmed many liberties of the church, and redreſſed many grievances incident to feodal tenures, of no ſmall moment at the time; tho' now, unleſs conſidered attentively and with this retroſpect, they ſeem but of trifling concern. But, beſides theſe feodal proviſions, care was alſo taken therein to protect the ſubject againſt other oppreſſions, then frequently ariſing from unreaſonable amercements, from illegal diſtreſſes or other proceſs for debts or ſervices due to the crown, and from the tyrannical abuſe of the prerogative of purveyance and pre-emption. It fixed the forfeiture of lands for felony in the ſame manner as it ſtill remains; prohibited for the future the grants of excluſive fiſheries; and the erection of new bridges ſo as to oppreſs the neighbourhood. With reſpect to private rights, it eſtabliſhed the teſtamentary power of the ſubject over part of his perſonal eſtate, the reſt being diſtributed among his wife and children; it laid down the law of dower, as it hath continued ever ſince; and prohibited the appeals of women, unleſs after the death of their huſbands. In matters of public police and national concern, it enjoined an uniformity of weights and meaſures; gave new encouragements to commerce, by the protection of merchant-ſtrangers; and forbad the alienation of lands in mortmain. With regard to the adminiſtration of juſtice: beſides prohibiting all denials or delays of it, it fixed the court of common-pleas at Weſtminſter, that the ſuitors might no longer be haraſſed with following the king's perſon in all his progreſſes; and at the ſame time brought the trial of iſſues home to the very doors of the freeholders, by directing aſſizes to be taken in the proper counties, and eſtabliſhing annual circuits: it alſo corrected ſome abuſes then incident to the trials by wager of law and of battle; directed the regular awarding of inqueſts for life or member; prohibited the king's inferior miniſters from holding pleas of the crown, or trying any criminal charge, whereby many for-

Charter, Charter-party.

forfeitures might otherwiſe have unjuſtly accrued to the exchequer; and regulated the time and place of holding the inferior tribunals of juſtice, the county-court, ſheriff's torn, and court-leet. It confirmed and eſtabliſhed the liberties of the city of London, and all other cities, boroughs, towns, and ports of the kingdom. And laſtly (which alone would have merited the title that it bears, of the *great charter*), it protected every individual of the nation in the free enjoyment of his life, his liberty, and his property, unleſs declared to be forfeited by the judgment of his peers or the law of the land.

This excellent charter, ſo equitable, and beneficial to the ſubject, is the moſt ancient written law in the kingdom. By the 25th Edward I. it is ordained, that it ſhall be taken as the common law; and by the 43d Edward III. all ſtatutes made againſt it are declared to be void.

CHARTER, in law, a written inſtrument, or evidence of things acted between one perſon and another. The word charter comes from the Latin *charta*, anciently uſed for a public and authentic act, a donation, contract, or the like; from the Greek χαρτης, "thick paper" or "paſteboard," whereon public acts were wont to be written. Britton divides charters into thoſe of the king, and thoſe of private perſons. 1. Charters of the king, are thoſe whereby the king paſſeth any grant to any perſon or body politic, as a *charter of exemption* of privilege, &c.; *charter of pardon*, whereby a man is forgiven a felony, or other offence committed againſt the king's crown and dignity; *charter of the foreſt*, wherein the laws of the foreſt are compriſed, ſuch as the charter of Canutus, &c. 2. Charters of private perſons, are deeds and inſtruments for the conveyance of lands, &c. And the purchaſer of lands ſhall have all the charters, deeds, and evidences, as incident to the ſame, and for the maintenance of his title.

Charter-Governments in America. See Colony.

Charter-Land, ſuch land as a perſon holds by charter; that is, by evidence in writing, otherwiſe called freehold.

CHARTERPARTY, in commerce, denotes the inſtrument of freightage, or articles of agreement for the hire of a veſſel. See Freight, &c.

The charterparty is to be in writing; and to be ſigned both by the proprietor or the maſter of the ſhip, and the merchant who freights it. It is to contain the name and the burden of the veſſel; the names of the maſter and the freighter; the price or rate of freight; and the time of loading and unloading; and the other conditions agreed on. It is properly a deed, or policy, whereby the maſter or proprietor of the veſſel engages to furniſh immediately a tight ſound veſſel, well equipped, caulked, and ſtopped, provided with anchors, ſails, cordage, and all other furniture to make the voyage required, as equipage, hands, victuals, and other munitions; in conſideration of a certain ſum to be paid by the merchant for the freight. Laſtly, the ſhip with all its furniture, and the cargo, are reſpectively ſubjected to the conditions of the *charterparty*. The *charterparty* differs from a *bill of lading*, in that the firſt is for the entire freight, or lading, and that both for going and returning; whereas the latter is only for a part of the freight, or at moſt only for the voyage one way.

Charterparty

The preſent Boyer ſays, the word comes from hence, that *per medium charta incidebatur, et ſic fiebat charta partita*; becauſe, in the time when notaries were leſs common, there was only one inſtrument made for both parties: this they cut in two, and gave each his portion; joining them together at their return, to know if each had done his part. This he obſerves to have been practiſed in his time; agreeable to the method of the Romans, who, in their ſtipulations, uſed to break a ſtaff, each party retaining a moiety thereof as a mark.

Charybdis

CHARTOHPYLAX, the name of an officer of the church of Conſtantinople, who attends at the door of the rails when the ſacrament is adminiſtered, and gives notice to the prieſts to come to the holy table. He repreſents the patriarch upon the bench, tries all eccleſiaſtical cauſes, keeps all the marriage regiſters, aſſiſts at the conſecration of biſhops, and preſents the biſhop elect at the ſolemnity, and likewiſe all other ſubordinate clergy. This office reſembles in ſome ſhape that of the *bibliothecarius* at Rome.

CHARTRES, a large city of France, in the province of Orleanois, ſituated on the river Eure, in E. Long. 1. 32. N. Lat. 48. 47. It is a biſhop's ſee.

CHARTREUSE, or Chartreuse-grand, a celebrated monaſtery, the capital of all the convents of the Carthuſian monks, ſituated on a ſteep rock in the middle of a large foreſt of fir-trees, about ſeven miles north-eaſt of Grenoble, in the province of Dauphine in France: E. Long. 5. 5. N. Lat. 45. 20. See Carthusians.

From this mother-convent, all the others of the ſame order take their name; among which was the Chartreuſe of London, corruptly called the charterhouſe, now converted into an hoſpital, and endowed with a revenue of 600 l. *per ann.*

Here are maintained 80 decayed gentlemen, not under 50 years of age: alſo 40 boys are educated and fitted either for the univerſity or trades. Thoſe ſent to the univerſity, have an exhibition of 20l. a-year for eight years; and have an immediate title to nine church-livings in the gift of the governors of the hoſpital, who are ſixteen in number, all perſons of the firſt diſtinction, and take their turns in the nomination of penſioners and ſcholars.

CHARTULARY, Chartularius, a title given to an ancient officer in the Latin church, who had the care of charters and papers relating to public affairs. The chartulary preſided in eccleſiaſtical judgments, in lieu of the pope. In the Greek church the chartulary was called *chartophylax*; but his office was there much more conſiderable; and ſome even diſtinguiſh the chartulary from the chartophylax in the Greek church. See Chartophylax.

CHARYBDIS, (anc. geog.) a whirlpool in the ſtraits of Meſſina, according to the poets; near Sicily, and oppoſite to Scylla, a rock on the coaſt of Italy. Thucydides makes it to be only a ſtrong flux and reflux in the ſtrait, or a violent reciprocation of the tide, eſpecially if the wind ſets ſouth. But on diving into the Charybdis, there are found vaſt gulphs and whirl-

pools

Chaſe. pools below, which produce all the commotion on the ſurface of the water.

Charybdis is uſed by Horace to denote a rapacious proſtitute.

CHASE, or Chace, in law, is uſed for a driving of cattle in or from any place; as to a diſtreſs, or fortlet, &c.

Chase, or *Chace*, is alſo a place of retreat for deer and wild beaſts; of a middle kind between a foreſt and a park, being uſually leſs than a foreſt, and not poſſeſſed of ſo many privileges; but wanting, v. g. courts of attachment, ſwainmote, and juſtice-ſeat *. Yet it is of a large extent, and ſtocked both with a greater diverſity of wild beaſts or game, and more keepers than a park. Crompton obſerves, that a foreſt cannot be in the hands of a ſubject, but it forthwith loſes it name, and becomes a *chaſe*; in regard all thoſe courts loſe their nature when they come into the hands of a ſubject; and that none but a king can make a lord chief juſtice in eyre of the foreſt. See Justice *in Eyre*.

* See *Foreſt*.

The following hiſtory of the Engliſh chaſes is given by Mr Pennant. "At firſt the beaſts of chaſe had this whole iſland for their range; they knew no other limits than the ocean, nor confeſſed any particular maſter. When the Saxons had eſtabliſhed themſelves in the heptarchy, they were reſerved by each ſovereign for his own particular diverſion: hunting and war, in thoſe uncivilized ages, were the only employ of the great; their active, but uncultivated minds, being ſuſceptible of no pleaſures but thoſe of a violent kind, ſuch as gave exerciſe to their bodies, and prevented the pain of thinking.

British Zool. i. 42.

"But as the Saxon kings only appropriated thoſe lands to the uſe of foreſts which were unoccupied, ſo no individuals received any injury: but when the conqueſt had ſettled the Norman line on the throne, this paſſion for the chace was carried to an exceſs, which involved every civil right in a general ruin: it ſuperſeded the conſideration of religion even in a ſuperſtitious age: the village-communities, nay even the moſt ſacred edifices, were turned into one vaſt waſte, to make room for animals, the objects of a lawleſs tyrant's pleaſure. The new foreſt in Hampſhire is too trite an inſtance to be dwelt on; ſanguinary laws were enacted to preſerve the game; and in the reigns of William Rufus, and Henry I. it was leſs criminal to deſtroy one of the human ſpecies than a beaſt of chaſe. Thus it continued while the Norman line filled the throne; but when the Saxon line was reſtored under Henry II. the rigour of the foreſt laws was immediately ſoftened.

"When our barons began to form a power, they claimed a vaſt, but more limited, tract for a diverſion that the Engliſh were always fond of. They were very jealous of any encroachments on their reſpective bounds, which were often the cauſe of deadly feuds: ſuch a one gave cauſe to the fatal day of *Chevy-chace*; a fact which, though recorded only in a ballad, may, from what we know of the manners of the times, be founded on truth: not that it was attended with all the circumſtances which the author of that natural but heroic compoſition hath given it; for, on that day, neither a *Percy* nor a *Douglas* fell: here the poet ſeems to have claimed his privilege, and mixed with this fray ſome of the events of the battle of *Otterbourne*. Chaſe.

"When property became happily more divided by the relaxation of the feodal tenures, theſe extenſive hunting-grounds became more limited; and as tillage and huſbandry increaſed, the beaſts of chace were obliged to give way to others more uſeful to the community. The vaſt tracts of land, before dedicated to hunting, were then contracted; and, in proportion as the uſeful arts gained ground, either loſt their original deſtination, or gave riſe to the invention of *parks*. Liberty and the arts ſeem coeval; for when once the latter got footing, the former protected the labours of the induſtrious from being ruined by the licentious ſportſman, or being devoured by the objects of his diverſion: for this reaſon, the ſubjects of a deſpotic government ſtill experience the inconveniences of vaſt waſtes and foreſts, the terrors of the neighbouring huſbandmen; while in our well regulated monarchy very few chaces remain. The Engliſh ſtill indulge themſelves in the pleaſures of hunting; but confine the deer kind to parks, of which England boaſts of more than any other kingdom in Europe. The laws allow every man his pleaſure; but confine them in ſuch bounds as prevent them from being injurious to the meaneſt of the community. Before the reformation, the prelates ſeem to have guarded ſufficiently againſt this want of amuſement, the ſee of Norwich, in particular, being poſſeſſed, about that time, of thirteen parks."

Chase, in the ſea-language, is to purſue a ſhip; which is alſo called *giving chaſe*.

Stern Chase, is when the chaſer follows the chaſed aſtern directly upon the ſame point of the compaſs.

To lie with a ſhip's fore-foot in a Chase, is to ſail and meet with her by the neareſt diſtance; and ſo to croſs her in her way, or to come acroſs her fore-foot.

A ſhip is ſaid to have a *good chaſe*, when ſhe is ſo built forward on, or a-ſtern, that ſhe can carry many guns to ſhoot forewards or backwards; according to which ſhe is ſaid to have a *good forward*, or *good ſtern chaſe*.

Chase-Guns, are ſuch whoſe ports are either in the head (and then they are uſed in chaſing of others); or in the ſtern, which are only uſeful when they are purſued or chaſed by any other ſhip.

Chase of a Gun, is the whole bore or length of a piece taken within-ſide.

Wild-gooſe Chace, a term uſed to expreſs a ſort of racing on horſeback uſed formerly, which reſembled the flying of wild-geeſe; thoſe birds generally going in a train one after another, not in confuſed flocks as other birds do. In this ſort of race the two horſes, after running twelve ſcore yards, had liberty, which horſe ſoever could take the leading, to ride what ground the jocky pleaſed, the hindmoſt horſe being bound to follow him within a certain diſtance agreed on by the articles, or elſe to be whipped in by the tryers and judges who rode by; and whichever horſe could diſtance the other, won the race. This ſort of racing was not long in common uſe; for it was found inhuman, and deſtructive to good horſes, when two ſuch were matched together. For in this caſe neither

Chaſing
Chaſtity

was able to diſtance the other till they were both ready to ſink under their riders; and often two very good horſes were both ſpoiled, and the wagers forced to be drawn at laſt. The miſchief of this ſort of racing ſoon brought in the method now in uſe, of running only for a certain quantity of ground, and determining the plate or wager by the coming in firſt at the poſt.

Chasing of Gold, Silver, &c. See Enchasing.

CHASTE-TREE. See Vitex.

CHASTITY; purity of the body, or freedom from obſcenity.—The Roman law juſtifies homicide in defence of the chaſtity either of one's ſelf or relations; and ſo alſo, according to Selden, ſtood the law in the Jewiſh republic. Our law likewiſe juſtifies a woman for killing a man who attempts to raviſh her. So the huſband or father may juſtify killing a man who attempts a rape upon his wife or daughter; but not if he takes them in adultery by conſent: for the one is forcible and felonious, but not the other.

Chaſtity is a virtue univerſally celebrated. There is indeed no charm in the female ſex that can ſupply its place. Without it, beauty is unlovely, and rank is contemptible; good breeding degenerates into wantonneſs, and wit into impudence. Out of the numerous inſtances of eminent chaſtity recorded by authors, the two following are ſelected on account of the leſſon afforded by the different modes of conduct which they exhibit.

Lucretia was a lady of great beauty and noble extraction: ſhe married Collatinus, a relation of Tarquinius Superbus, king of Rome. During the ſiege of Ardea, which laſted much longer than was expected, the young princes paſſed their time in entertainments and diverſions. One day as they were at ſupper *, at Sextus Tarquin's the king's eldeſt ſon, with Collatinus, Lucretia's huſband, the converſation turned on the merit of their wives: every one gave his own the preference. "What ſignify ſo many words?" ſays Collatinus; "you may in a few hours, if you pleaſe, be convinced by your own eyes, how much my Lucretia excels the reſt. We are young: let us mount our horſes, and go and ſurpriſe them. Nothing can better decide our diſpute than the ſtate we ſhall find them in at a time when moſt certainly they will not expect us." They were a little warmed with wine: "Come on, let us go," they all cried together. They quickly galloped to Rome, which was about twenty miles from Ardea, where they find the princeſſes, wives of the young Tarquins, ſurrounded with company, and every circumſtance of the higheſt mirth and pleaſure. From thence they rode to Collatia, where they ſaw Lucretia in a very different ſituation. With her maids about her, ſhe was at work in the inner part of her houſe, talking on the dangers to which her huſband was expoſed. The victory was adjudged to her unanimouſly. She received her gueſts with all poſſible politeneſs and civility. Lucretia's virtue, which ſhould have commanded reſpect, was the very thing which kindled in the breaſt of Sextus Tarquin a ſtrong and deteſtable paſſion. Within a few days he returned to Collatia; and upon the plauſible excuſe he made for his viſit, he was received with all the politeneſs due to a near relation, and the eldeſt ſon of a king. Watching the firſt opportunity, he declares the paſſion ſhe had excited at his laſt viſit, and employed the moſt tender intreaties, and all the artifices poſſible, to touch a woman's heart; but all to no purpoſe. He then endeavoured to extort her compliance by the moſt terrible threatenings. It was in vain. She ſtill perſiſted in her reſolution; nor could ſhe be moved, even by the fear of death. But when the monſter told her that he would firſt diſpatch her, and then having murdered a ſlave, would lay him by her ſide, after which he would ſpread a report, that having caught them in the act of adultery, he had puniſhed them as they deſerved; this ſeemed to ſhake her reſolution. She heſitated, not knowing which of theſe dreadful alternatives to take, whether, by conſenting, to diſhonour the bed of her huſband, whom ſhe tenderly loved; or, by refuſing, to die under the odious character of having proſtituted her perſon to the luſt of a ſlave. He ſaw the ſtruggle of her ſoul; and ſeizing the unlucky moment, obtained an inglorious conqueſt. Thus Lucretia's virtue, which had been proof againſt the fear of death, could not hold out againſt the fear of infamy. The young prince, having gratified his paſſion, returned home as in triumph. On the morrow, Lucretia, overwhelmed with grief and deſpair, ſent early in the morning to deſire her father and her huſband to come to her, and bring with them each a truſty friend, aſſuring them there was no time to loſe. They came with all ſpeed, the one accompanied with Valerius (ſo famous after under the name of Publicola), and the other with Brutus. The moment ſhe ſaw them come, ſhe could not command her tears; and when her huſband aſked her if all was well? "By no means," ſaid ſhe, "it cannot be well with a woman after ſhe has loſt her honour. Yes, Collatinus, thy bed has been defiled by a ſtranger: but my body only is polluted; my mind is innocent, as my death ſhall witneſs. Promiſe me only not to ſuffer the adulterer to go unpuniſhed: it is Sextus Tarquinius, who laſt night, treacherous gueſt, or rather cruel foe, offered me violence, and reaped a joy fatal to me; but, if you are men, it will be ſtill more fatal to him." All promiſed to revenge her; and, at the ſame time, tried to comfort her with repreſenting, "That the mind only ſins, not the body; and where the conſent is wanting, there can be no guilt." "What Sextus deſerves," replies Lucretia, "I leave you to judge; but for me, though I declare myſelf innocent of the crime, I exempt not myſelf from puniſhment. No immodeſt woman ſhall plead Lucretia's example to outlive her diſhonour." Thus ſaying, ſhe plunged into her breaſt a dagger ſhe had concealed under her robe, and expired at their feet. Lucretia's tragical death has been praiſed and extolled by Pagan writers, as the higheſt and moſt noble act of heroiſm. The goſpel thinks not ſo: it is murder, even according to Lucretia's own principles, ſince ſhe puniſhed with death an innocent perſon, at leaſt acknowledged as ſuch by herſelf. She was ignorant that our life is not in our own power, but in his diſpoſal from whom we receive it. St Auſtin, who carefully examines, in his book *De Civitate Dei*, what we are to think of Lucretia's death, conſiders it not as a courageous action, flowing from a true love of chaſtity, but as an infirmity of a woman too ſenſible of worldly fame and glory; and who, from

Chaſtity

* *Liv.* l. i. c. 56—60 *Dionyſ.* l. iv p. 261—277. *Flor.* l. iii. 9.

a.

Chaſtity. Chateau-Briant.

a dread of appearing in the eyes of men an accomplice of the violence ſhe abhorred, and of a crime to which ſhe was entirely a ſtranger, commits a real crime upon herſelf voluntarily and deſignedly. But what cannot be ſufficiently admired in this Roman lady is her abhorrence of adultery, which ſhe ſeems to hold ſo deteſtable as not to bear the thoughts of it. In this ſenſe, ſhe is a noble example for all her ſex.

Chiomara, the wife of Ortiagon, a Gauliſh prince, was equally admirable for her beauty and chaſtity. During the war between the Romans and the Gauls, A. R. 563, the latter were totally defeated on Mount Olympus. Chiomara, among many other ladies, was taken priſoner, and committed to the care of a centurion, no leſs paſſionate for money than women. He, at firſt, endeavoured to gain her conſent to his infamous deſires; but not being able to prevail upon her, and ſubvert her conſtancy, he thought he might employ force with a woman whom misfortune had reduced to ſlavery. Afterwards, to make her amends for that treatment, he offered to reſtore her liberty; but not without ranſom. He agreed with her for a certain ſum, and to conceal this deſign from the other Romans, he permitted her to ſend any of the priſoners ſhe ſhould chooſe to her relations, and aſſigned a place near the river where the lady ſhould be exchanged for gold. By accident there was one of her own ſlaves amongſt the priſoners. Upon him ſhe fixed; and the centurion ſoon after carried her beyond the advanced poſts, under cover of a dark night. The next evening two of the relations of the princeſs came to the place appointed, whether the centurion alſo carried his captive. When they had delivered him the Attic talent they had brought, which was the ſum they had agreed on, the lady, in her own language, ordered thoſe who came to receive her to draw their ſwords and kill the centurion, who was then amuſing himſelf with weighing the gold. Then, charmed with having revenged the injury done her chaſtity, ſhe took the head of the officer, which ſhe had cut off with her own hands, and hiding it under her robe, went to her huſband Ortiagon, who had returned home after the defeat of his troops. As ſoon as ſhe came into his preſence, ſhe threw the centurion's head at his feet. He was ſtrangely ſurpriſed at ſuch a ſight; and aſked her whoſe head it was, and what had induced her to do an act ſo uncommon to her ſex? With a face covered with a ſudden bluſh, and at the ſame time expreſſing her fierce indignation, ſhe declared the outrage which had been done her, and the revenge ſhe had taken for it. During the reſt of her life, ſhe ſtedfaſtly retained the ſame attachment for the purity of manners which conſtitutes the principal glory of the ſex, and nobly ſuſtained the honour of ſo glorious, bold, and heroic an action.—This lady was much more prudent than Lucretia, in revenging her injured honour by the death of her raviſher, rather than by her own. Plutarch relates this fact, in his treatiſe upon the virtue and great actions of women; and it is from him we have the name of this, which is well worthy of being tranſmitted to poſterity.

The above virtue in men is termed *continence*. See CONTINENCE.

CHATEAU-BRIANT, a town of France in Brittany, with an old caſtle. W. Long. 1. 20. N. Lat. 47. 40.

Chateau Chatelleraul.

CHATEAU-Chinon, a town of France in Nivernois, and capital of Morvant, with a conſiderable manufacture of cloth. E. Long. 3. 48. N. Lat. 47. 2.

CHATEAU-Dauphin, a very ſtrong caſtle of Piedmont in Italy, and in the marquiſate of Saluces, belonging to the king of Sardinia. It was taken by the combined army of France and Spain in 1744, and was reſtored by the treaty of Aix-la-Chapelle.

CHATEAU-du-Loir, a town of France in the Maine, famous for ſuſtaining a ſiege of ſeven years againſt the Count of Mans. It is ſeated on the river Loir, in E. Long. 0. 25. N. Lat. 47. 40.

CHATEAU-Dun, an ancient town of France, and capital of the Dunois, with a caſtle and rich monaſtery; ſeated on an eminence near the river Loir, in E. Long. 1. 26. N. Lat. 48. 4.

CHATEAU-Neuf, the name of ſeveral towns of France, *viz.* one in Perche; another in Angumois, on the river Charente, near Angouſeline; a third in Berry, ſeated on the river Cher; and ſeveral other ſmall places.

CHATEAU-Portien, a town of France, in Champagne, and in a diſtrict called Portien, with a caſtle built on a rock, near the river Aine. E. Long. 4. 23. N. Lat. 49. 35.

CHATEAU-Renaud, a town of France, in the Gatenois, where clothes are made for the army, and where there is a trade in ſaffron. E. Long. 2. 25. N. Lat. 48. 0. This is alſo the name of a town of Touraine, in France, with the title of a marquiſate. E. Long. 2. 41. N. Lat. 47. 22.

CHATEAU-Roux, a town of France, in Berry, with the title of a duchy. It has a cloth-manufacture, and is ſeated in a very large pleaſant plain on the river Indre, in E. Long. 1. 47. N. Lat. 46. 49.

CHATEAU-Thierry, a town of France, in Champagne, with the title of a duchy, and a handſome caſtle on an eminence, ſeated on the river Maine, in E. Long. 3. 23. N. Lat. 49. 12.

CHATEAU-Vilain, a town of France, in Champagne, with a caſtle, and the title of a duchy; ſeated on the river Anjou. E. Long. 2. 59. N. Lat. 48. 0.

CHATEL, or CHATE, a town of Lorrain, in the Voſque, ſeated on the river Moſelle, eight miles from Mirecourt.

CHATEL-Aillon, a maritime town of France, in Saintonge, five miles from Rochelle; formerly very conſiderable, but is now greatly decayed.

CHATEL-Chalon, a town of France, in Franche Comte, remarkable for its abbey of benedictine nuns. E. Long. 5. 25. N. Lat. 46. 50.

CHATELET, a town of the Netherlands, in Namur, ſeated on the Sambre, in the biſhopriek of Liege. E. Long. 4. 28. N. Lat. 50. 25.

CHATELET, the name of certain courts of juſtice eſtabliſhed in ſeveral cities in France. The grand chatelet at Paris, is the place where the preſidial or ordinary court of juſtice of the provoſt of Paris is kept; conſiſting of a preſidial, a civil chamber, a criminal chamber, and a chamber of policy. The little chatelet is an old fort, now ſerving as a priſon.

CHATELLERAULT, a town of France, in Poi-

Chatham || Chatterton.

toy, with the title of a duchy; ſeated in a fertile and pleaſant country, on the river Vienne, over which there is a handſome ſtone-bridge. E. Long. 0. 40. N. Lat. 46. 34.

CHATHAM, a town of Kent, adjoining to Rocheſter, and ſeated on the river Medway. It is the principal ſtation of the royal navy; and the yards and magazines are furniſhed with all kinds of naval ſtores, as well as materials for building and rigging the largeſt men of war. The entrance into the river Medway is defended by Sheerneſs and other forts; notwithſtanding which, the Dutch fleet burnt ſeveral ſhips of war here in the reign of Charles II. after the peace of Breda had been agreed upon. In the year 1757, by direction of the Duke of Cumberland, ſeveral additional fortifications were begun at Chatham; ſo that now the ſhips are in no danger of an inſult either by land or water. It has a church, a chapel of eaſe, and a ſhip uſed as a church for the tailors. It has likewiſe about 500 houſes, moſtly low, and built with brick; the ſtreets are narrow, and paved; and it contains about 3000 inhabitants. The principal employment of the labouring hands is ſhip-building in the king's yard and private docks. This town gave title of Earl to that great ſtateſman William Pitt in the reigns of George II. and III. E. Long. 0. 40. N. Lat. 51. 20.

CHATIGAN, a town of Aſia, in the kingdom of Bengal, on the moſt eaſterly branch of the river Ganges. It is but a poor place, though it was the firſt the Portugueſe ſettled at in theſe parts, and who ſtill keep a fort of poſſeſſion. It has but a few cotton manufactures; but affords the beſt timber for building of any place about it. The inhabitants are ſo ſuſpicious of each other, that they always go armed with a ſword, piſtol, and blunderbuſs, not excepting the prieſts. It is ſubject to the Great Mogul. E. Long. 91. 10. N. Lat. 23. 0.

CHATILLON SUR-SEINE, a town of France, in Burgundy, divided into two by the river Seine. It is 32 miles from Langres, and 40 from Dijon; and has iron works in its neighbourhood. E. Long. 4. 33. N. Lat. 47. 45.

CHATRE, a town of France, in Berry, ſeated on the river Indres, 37 miles from Bourges. It carries on a conſiderable trade in cattle. E. Long. 1. 55. N. Lat. 46. 35.

CHATTELS, a Norman term, under which were anciently comprehended all moveable goods; thoſe immoveable being termed *fief*, or *fee*.

CHATTELS, in the modern ſenſe of the word, are all ſorts of goods, moveable or immoveable, except ſuch as are in the nature of freehold.

CHATTERER, in ornithology. See AMPELIS.

CHATTERTON (Thomas), a late unfortunate poet, whoſe fate and performances have excited in no ſmall degree the public attention, as well as given riſe to much literary controverſy. He was born at Briſtol, Nov. 20. 1752; and educated at a charity-ſchool on St Auguſtin's Back, where nothing more was taught than reading, writing, and accounts. At 14 years of age, he was articled clerk to an attorney at Briſtol, with whom he continued about three years; yet, though his education was thus confined, he diſcovered an early turn towards poetry and Engliſh antiquities, and particularly towards heraldry. How ſoon he began to be an author is not known. In the Town and Country Magazine for March 1769, are two letters, probably from him, as they are dated from Briſtol, and ſubſcribed with his uſual ſignature, D. B. that is, *Dunhelmus Briſtolienſis*. The former contains ſhort extracts from two MSS. "written 300 years ago by one Rowley a monk," concerning dreſs in the age of Henry II.; the latter, "Ethelgar, a Saxon poem," in bombaſt proſe. In the ſame magazine for May 1769, are three communications from Briſtol, with the ſame ſignature D. B. one of them intitled "Obſervations upon Saxon Heraldry, with drawings of Saxon Atchievements;" and in the ſubſequent months of 1769 and 1770, there are ſeveral other pieces in the ſame magazine, which are undoubtedly of his compoſition. Chatterton.

In April 1770, he left Briſtol, diſguſted with his profeſſion, and irreconcileable to the line of life in which he was placed; and coming to London in hopes of advancing his fortune by his pen, he ſunk at once from the ſublimity of his views to an abſolute dependence on the patronage of bookſellers. Things, however, ſeem ſoon to have brightened up a little with him; for, May 14. he writes to his mother, in high ſpirits, upon the change of his ſituation, with the following ſarcaſtic reflection upon his former patrons at Briſtol. "As to Mr ——, Mr ——, Mr ——, &c. &c. they rate literary lumber ſo low, that I believe an author, in their eſtimation, muſt be poor indeed: but here matters are otherwiſe. Had Rowley been a Londoner inſtead of a Briſtowyan, I could have lived by copying his works." In a letter to his ſiſter, May 30, he informs her that he is to be employed in writing a voluminous Hiſtory of London, to appear in numbers the beginning of next winter. Meanwhile, he had written ſomething in praiſe of Beckford, then lord mayor, which had procured him the honour of being preſented to his lordſhip; and, in the letter juſt mentioned, he gives the following account of his reception, with certain obſervations upon political writing. "The lord mayor received me as politely as a citizen could: but the devil of the matter is, there is no money to be got on this ſide of the queſtion.—However, he is a poor author who cannot write on both ſides.—Eſſays on the patriotic ſide will fetch no more than what the copy is ſold for. As the patriots themſelves are ſearching for places, they have no gratuity to ſpare.—On the other hand, unpopular eſſays will not even be accepted, and you muſt pay to have them printed: but then you ſeldom loſe by it, as courtiers are ſo ſenſible of their deficiency in merit, that they generouſly reward all who know how to daub them with the appearance of it."

He continued to write inceſſantly in various periodical publications. July 11th, he tells his ſiſter that he had pieces laſt month in ſeveral magazines; in The Goſpel Magazine, The Town and Country, The Court and City, The London, The Political Regiſter, &c. But all theſe exertions of his genius brought in ſo little profit, that he was ſoon reduced to the extremeſt indigence; ſo that at laſt, oppreſſed with poverty and alſo diſeaſe, in a fit of deſpair he put an end to his exiſtence, Aug. 1770, with a doſe of poiſon. This unfortunate perſon, though certainly a moſt extraordinary genius, ſeems yet to have been a moſt ungracious compoſition. He was violent and impetuous to a ſtrange degree.

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Chatterton. degree. From the firſt of the above-cited letters he ſeems to have had a portion of ill-humour and ſpleen more than enough for a lad of 17; and the editor of his Miſcellanies records, "that he poſſeſſed all the vices and irregularities of youth, and that his profligacy was at leaſt as conſpicuous as his abilities."

In 1777 were publiſhed, in one volume 8vo, "Poems, ſuppoſed to have been written at Briſtol, by Thomas Rowley and others, in the 15th century: the greateſt part now firſt publiſhed from the moſt authentic copies, with an engraved ſpecimen of one of the MSS. To which are added, a Preface, an introductory Account of the ſeveral Pieces, and a Gloſſary." And, in 1778, were publiſhed, in one volume 8vo, "Miſcellanies in Proſe and Verſe, by Thomas Chatterton, the ſuppoſed author of the Poems publiſhed under the names of Rowley, &c."

Of Rowley's Poems, we have the following account in the preface, given in the words of Mr George Catcot of Briſtol, to whom, it is ſaid, the public is indebted for them. "The firſt diſcovery of certain MSS. having been depoſited in Redcliff church above three centuries ago, was made in the year 1768, at the time of opening the new bridge at Briſtol; and was owing to a publication in Farley's Weekly Journal, Oct. 1ſt, containing an account of the ceremonies obſerved at the opening of the old bridge, taken, as it was ſaid, from a very ancient MS. This excited the curioſity of ſome perſons to enquire after the original. The printer, Mr Farley, could give no account of it, or of the perſon who brought the copy; but after much inquiry it was diſcovered, that this perſon was a youth between 15 and 16 years of age, whoſe name was Thomas Chatterton, and whoſe family had been ſextons of Redcliff church for near 150 years. His father, who was now dead, had alſo been maſter of the free-ſchool in Pik-ſtreet. The young man was at firſt very unwilling to diſcover from whence he had the original: but, after many promiſes made to him, was at laſt prevailed on to acknowledge that he had received this, together with many other MSS. from his father, who had found them in a large cheſt in an upper room over the chapel, on the north ſide of Redcliff church." It is added, that ſoon after this Mr Catcot commenced an acquaintance with Chatterton, and partly as preſents, partly as purchaſes, procured from him copies of many of his MSS. in proſe and verſe; as other copies were diſpoſed of in like manner to others. It is concluded, however, that whatever may have been Chatterton's part in this very extraordinary tranſaction, whether he was the author, or only (as he conſtantly aſſerted) the copier of all theſe productions, he appears to have kept the ſecret entirely himſelf, and not to have put it in any one's power to bear certain teſtimony either of his fraud or of his veracity.

This affair, however, hath ſince become the foundation of a mighty controverſy among the critics, which hath yet ſcarcely ſubſided. The poems in queſtion, publiſhed in 1777, were republiſhed in 1778, with an "Appendix, containing ſome obſervations upon their language; tending to prove that they were written, not by any ancient author, but entirely by Chatterton." Mr Warton, in the third volume of his Hiſtory of Engliſh poetry, hath eſpouſed the ſame ſide of the queſtion. Mr Walpole alſo obliged the world with a Letter on Chatterton, from his preſs at Strawberry-hill. On the other hand have appeared, "Obſervations" upon theſe poems, "in which their authenticity is aſcertained," by Jacob Bryant, Eſq. 1781, 2vols 8vo; and another edition of the "Poems, with a Comment, in which their Antiquity is conſidered and defended, by Jeremiah Milles, D.D. Dean of Exeter, 1782," 4to. In anſwer to theſe two works, we have had three pamphlets: 1. "Curſory Obſervations on the Poems, and Remarks on the Commentaries of Mr Bryant and Dr Milles; with a ſalutary propoſal addreſſed to the friends of thoſe gentlemen." 2. "An Archæological Epiſtle to Dean Milles, editor of a ſuperb edition of Rowley's Poems, &c." 3. "An Inquiry into the Authenticity of the Poems attributed to Thomas Rowley, in which the Arguments of the Dean of Exeter and Mr Bryant are examined, by Thomas Warton;" and other pieces in the public prints and magazines: All preparatory to the complete ſettlement of the buſineſs in "A Vindication of the Appendix to the Poems called Rowley's, in reply to the Anſwers of the Dean of Exeter, Jacob Bryant, Eſq; and a third Anonymous Writer; with ſome further Obſervations upon thoſe Poems, and an Examination of the Evidence which has been produced in ſupport of their Authenticity. By Thomas Tyrwhitt, 1782," 8vo. Chaucer.

CHAUCER (Sir Geofrey), an eminent Engliſh poet in the 14th century, born at London in 1328. After he left the univerſity, he travelled into Holland, France, and other countries. Upon his return he entered himſelf in the Inner-temple, where he ſtudied the municipal laws of England. His firſt ſtation at court was page to Edward III. and he had a penſion granted him by that prince till he could otherwiſe provide for him. Soon after we find him gentleman of the king's privy chamber; next year, ſhield-bearer to the king. Eſteemed and honoured, he ſpent his younger days in a conſtant attendance at court, or for the moſt part living near it, in a ſquare ſtone-houſe near the park-gate at Woodſtock, ſtill called *Chaucer's Houſe*.

Soon after, having got the Duke of Lancaſter for his patron, Chaucer began every day to riſe in greatneſs. In 1373, he was ſent, with other perſons, to the republic of Genoa to hire ſhips for the king's navy (our want of ſhipping in thoſe times being uſually ſupplied by ſuch means); and the king was ſo well ſatisfied with his negociation, that, on his return, he obtained a grant of a pitcher of wine daily in the port of London, to be delivered by the butler of England; and ſoon after was made comptroller of the cuſtoms for wool, wool-fells, and hides; an office which he diſcharged with great diligence and integrity. At this period, Chaucer's income was about L. 1000 a-year; a ſum which in thoſe days might well enable him to live, as he ſays he did, with dignity in office, and hoſpitality among his friends. It was in this meridian blaze of proſperity, in perfect health of body and peace of mind, that he wrote his moſt humorous poems. His ſatires againſt the prieſts were probably written to oblige his patron the Duke of Lancaſter, who favoured the cauſe of Wickliff, and endeavoured to expoſe the clergy to the indignation of the people. In the laſt year of Edward III. our poet was employed in a commiſſion

Chaucer. miſſion to treat with the French; and in the beginning of King Richard's reign, he was in ſome degree of favour at court.

The Duke of Lancaſter at laſt finding his views checked, began to abandon Wickliffe's party: upon which Chaucer likewiſe, how much ſoever he had eſpouſed that divine's opinions, thought it prudent to conceal them more than he had done. With the Duke's intereſt that of Chaucer entirely ſunk; and the former paſſing over ſea, his friends felt all the malice of the oppoſite party. Theſe misfortunes occaſioned his writing that excellent treatiſe *The Teſtament of Love*, in imitation of Boethius on the conſolation of philoſophy. Being much reduced, he retired to Woodſtock, to comfort himſelf with ſtudy, which produced his admirable treatiſe of the *Aſtrolabe*.

The Duke of Lancaſter at laſt ſurmounting his troubles, married Lady Catharine Swynford, ſiſter to Chaucer's wife; ſo that Thomas Chaucer, our poet's ſon, became allied to moſt of the nobility, and to ſeveral of the kings of England. Now the ſun began to ſhine upon Chaucer with an evening ray; for by the influence of the Duke's marriage, he again grew to a conſiderable ſhare of wealth. But being now 70, he retired to Dunnington-caſtle near Newbury. He had not enjoyed this retirement long before Henry IV. ſon of the Duke of Lancaſter, aſſumed the crown, and in the firſt year of his reign gave our poet marks of his favour. But however pleaſing the change of affairs might be to him at firſt, he afterwards found no ſmall inconveniences from it. The meaſures and grants of the late king were annulled; and Chaucer, in order to procure freſh grants of his penſions, left his retirement, and applied to court: where, though he gained a confirmation of ſome grants, yet the fatigue of attendance, and his great age, prevented him from enjoying them. He fell ſick at London; and ended his days in the 72d year of his age, leaving the world as though he deſpiſed it, as appears from his ſong of *Flie from the Preſs*. The year before his death he had the happineſs, if at his time of life it might be ſo called, to ſee the ſon of his brother-in-law (Hen. IV.) ſeated on the throne. He was interred in Weſtminſter abbey; and in 1556, Mr Nicholas Bingham, a gentleman of Oxford, at his own charge, erected a handſome monument for him there. Caxton firſt printed the Canterbury Tales; but his works were firſt collected and publiſhed in one volume folio, by William Thynne, London, 1542. They were afterwards reprinted in 1561, 1598, 1602. Oxford, 1721.

Chaucer was not only the firſt, but one of the beſt poets which theſe kingdoms ever produced. He was equally great in every ſpecies of poetry which he attempted; and his poems in general poſſeſs every kind of excellence, even to a modern reader, except melody and accuracy of meaſure; defects which are to be attributed to the imperfect ſtate of our language, and the infancy of the art in this kingdom at the time when he wrote. "As he is the father of Engliſh poetry (ſays Mr Dryden), ſo I hold him in the ſame degree of veneration as the Grecians held Homer, or the Romans Virgil. He is a perpetual fountain of good ſenſe, learned in all ſciences, and therefore ſpeaks properly on all ſubjects. As he knew what to ſay, ſo he knows alſo when to leave off; a continence which is practiſed by few writers, and ſcarcely by any of the ancients, except Virgil and Horace." This character Chaucer certainly deſerved. He had read a great deal; and was a man of the world, and of ſound judgment. He was the firſt Engliſh poet who wrote *poetically*, as Dr Johnſon obſerves in the preface to his Dictionary, and (he might have added) who wrote like a gentleman. He had alſo the merit of improving our language conſiderably, by the introduction and naturalization of words from the Provençal, at that time the moſt poliſhed dialect in Europe. Chauncy Chaves.

CHAUCIS (anc. geog.), the country of the Chauci, a people of Germany: divided into the *Minores*, now *Eaſt Frieſeland* and the county of *Oldenburg*; and into the *Majores*, now the duchy of *Bremen* and a part of *Lunenburg*.

CHAUD-MEDLEY, in law, is of much the ſame import with *Chance-Medley*. The former in its etymology ſignifies an affray in the heat of blood or paſſion; the latter, a caſual affray. The latter is in common ſpeech too often erroneouſly applied to any manner of homicide by miſadventure; whereas it appears by the ſtat. 24 Hen. VIII. c. 5. and ancient books (Staundf. P. C. 16.), that it is properly applied to ſuch killing as happens in ſelf-defence upon ſudden encounter.

CHAL, a town of the Eaſt Indies, on the coaſt of Malabar, in the province of Blagana, and kingdom of Viſapour. Its river affords a good harbour for ſmall veſſels. The town is fortified, and ſo is the iſland on the ſouth ſide of the harbour. It had formerly a good trade, but is now miſerably poor. It was taken by the Portugueſe in 1507, to whom it ſtill belongs. It is 15 miles ſouth of Bombay, and five miles from the ſea. E. Long. 72. 45. N. Lat. 18. 30.

CHAULIEU (William Amfrye de), abbé d'Amale, one of the moſt polite and ingenious of the French poets, was born in 1639, and died at the age of 84. The moſt complete edition of his poems is that printed in 2 vols 8vo in 1733.

CHAUMONT, a town of France, in Champagne, and in the diſtrict of Baſſigni, of which it is the capital. It is ſeated on a mountain near the river Marne. E. Long. 5. 15. N. Lat. 48. 6.

CHAUNE, a town of France, in Picardy, and in the diſtrict of Sanſterre, with the title of a duchy. E. Long. 2. 55. N. Lat. 49. 45.

CHAUNTRY. See CHANTRY.

CHAUNY, a town of France, in Picardy, ſeated on the river Oiſe, in Chantry. E. Long. 3. 17. N. Lat. 49. 37.

CHAUVIN (Stephen), a celebrated miniſter of the reformed religion, born at Nifmes, left France at the revocation of the edict of Nantz, and retired to Rotterdam, where he began a new *Journal des Sçavans*; and afterwards removing to Berlin, continued it there three years. At this laſt place, he was made profeſſor of philoſophy, and diſcharged that office with much honour and reputation. His principal work is a philoſophical dictionary, in Latin, which he publiſhed at Rotterdam in 1692; and gave a new edition of it much augmented, at Lewarden, in 1713, folio. He died in 1725, aged 85.

CHAVEZ, a ſtrong town of Tralos-Montes in Portugal, is ſeated at the foot of a mountain on the river Tamega. It has two ſuburbs, and as many forts; one

Chazelles, Chazinzarians.

one of which looks like a citadel. Between the town and ſuburb of Magdalena, is an old Roman ſtone-bridge about 92 geometrical paces long. W. Long. 7. 1. N. Lat. 41. 43.

CHAZELLES (John Matthew), a celebrated French mathematician and engineer, was born at Lyons in 1657. M. du Hamel, with whom he got acquainted, finding his genius incline towards aſtronomy, preſented him to M. Caſſini, who employed him in his obſervatory. In 1684, the Duke of Mortemar made uſe of Chazelles to teach him mathematics; and, the year after, procured him the preferment of hydrography profeſſor for the galleys of Marſeilles, where he ſet up a ſchool for young pilots deſigned to ſerve aboard the galleys. In 1686, the galleys made four little campaigns, or rather four courſes, purely for exerciſe. Chazelles went on board every time with them; kept his ſchool upon the ſea, and ſhowed the practice of what he taught. In the year 1687 and 1688, he made two other ſea-campaigns, in which he drew a great many plans of ports, roads, towns, and forts, which were lodged with the miniſters of ſtate. At the beginning of the war, which ended with the peace of Ryſwick, ſome marine officers, and Chazelles among the reſt, fancied the galleys might be ſo contrived as to live upon the ocean; that they might ſerve to tow the men of war when the wind failed or proved contrary, and alſo help to ſecure the coaſt of France upon the ocean. Chazelles was ſent to the weſt coaſts in July 1689, to examine the practicableneſs of this ſcheme; and in 1690, fifteen galleys new built ſet ſail from Rochefort, and cruiſed as far as Torbay in England, and proved ſerviceable at the deſcent upon Tinmouth. After this, he digeſted into order the obſervations he had made on the coaſts of the ocean; and drew diſtinct maps with a portulan in them, viz. a large deſcription of every haven, of the depth, the tides, the dangers and advantages diſcovered, &c. Theſe maps were inſerted in the *Neptune Françoiſe*, publiſhed in 1692, in which year Chazelles was engineer at the deſcent at Oneille. In 1693, Monſieur de Pontchartrain, then ſecretary of ſtate for the marine, and afterwards chancellor of France, reſolved to get the *Neptune Françoiſe* carried on to a ſecond volume, which was alſo to take in the Mediterranean. Chazelles deſired that he might have a year's voyage on this ſea, for making aſtronomical obſervations; and the requeſt being granted, he paſſed by Greece, Egypt, and the other parts of Turky, with his quadrant and teleſcope in his hand. When he was in Egypt he meaſured the pyramids; and finding the ſides of the largeſt preciſely facing the four cardinal points, naturally concluded this poſition to have been intended, and alſo that the poles of the earth and meridians had not ſince deviated. Chazelles likewiſe made a report of his voyage in the Levant, and gave the academy all the ſatisfaction they wanted concerning the poſition of Alexandria: upon which he was made a member of the academy in 1695. He died in 1710.

CHAZINZARIANS, a ſect of heretics who roſe in Armenia in the ſeventh century. The word is formed of the Armenian *chazus*, "croſs." They are alſo called *ſtaurolatræ*, which in Greek ſignifies the ſame as *Chazinzarians* in Armenian, *viz. adorers of the croſs*; they being charged with paying adoration to the croſs alone. In other reſpects they were Neſtorians; and admitted two perſons in Jeſus Chriſt. Nicephorus aſcribes other ſingularities to them; particularly their holding an annual feaſt in memory of the dog of their falſe prophet Sergius, which they called *artzibartzes*.

Cheaſapeak ‖ Check.

CHEASAPEAK BAY, in North America, the entrance between Cape Henry and Cape Charles, running up 300 miles between Virginia and Maryland. It is navigable almoſt all the way for large ſhips, and has ſeveral navigable rivers that fall into it, by means of which ſhips go up to the very doors of the planters, to take in their lading of goods.—Here was a ſea-engagement in 1781 between the Britiſh fleet under Admiral Graves conſiſting of 19 ſhips of the line, and the French fleet of 24 line-of-battle ſhips under the Count de Graſſe, which ended in the Count's keeping poſſeſſion of the Bay, by which Lord Cornwallis and his whole army were made priſoners of war at Yorktown, being inveſted both by ſea and land by very ſuperior numbers.

CHEATS, are deceitful practices in defrauding, or endeavouring to defraud, another of his known right, by means of ſome artful device, contrary to the plain rules of common honeſty: as by playing with falſe dice, or by cauſing an illiterate perſon to execute a deed to his prejudice, by reading it over to him in words different from thoſe in which it was written, &c.—If any perſon deceitfully get into his hands or poſſeſſion any money or other things of any other perſon's by colour of any falſe token, &c. being convicted, he ſhall have ſuch puniſhment by impriſonment, ſetting upon the pillory, or by any corporeal pain except pains of death, as ſhall be adjudged by the perſons before whom he ſhall be convicted.—As there are frauds which may be relieved civilly, and not puniſhed criminally; ſo there are other frauds which in a ſpecial caſe may not be helped civilly, and yet ſhall be puniſhed criminally. Thus if a minor goes about the town, and, pretending to be of age, defrauds many perſons by taking credit for a conſiderable quantity of goods, and then inſiſting on his nonage, the perſons injured cannot recover the value of their goods, but they may indict and puniſh him for a common cheat. Perſons convicted of obtaining money or goods by falſe pretences, or of ſending threatening letters in order to extort money or goods, may be puniſhed with fine or impriſonment, or by pillory, whipping, or tranſportation.

CHEBRECHIN, a town of Poland, in the province of Ruſſia and palatinate of Belſkow. It is ſeated on the declivity of a hill, and the river Wierpi waters its walls, and afterwards falls into the river Bog. The Jews there are very rich. E. Long. 23. 51. N. Lat. 50. 35.

CHECAYA, in Turkiſh affairs, the ſecond officer of the Janizaries, who commands them under the aga, and is otherwiſe called *protogero*.

There is alſo a checaya of the treaſury, ſtables, kitchen, &c. the word ſignifying as much as lieutenant, or the ſecond in any office.

CHECK, or *Check-Roll*, a roll or book, wherein are contained the names of ſuch perſons as are attendants and in the pay of the king, or other great perſonages, as their houſehold ſervants.

Clerk.

Check ‖ Checks.

Clerk of the Check in the king's houſehold, has the check and controlment of the yeomen of the guard, and all the uſhers belonging to the royal family, allowing their abſence or defects in attendance, or diminiſhing their wages for the ſame, &c. He alſo, by himſelf or deputy, takes the view of thoſe that are to watch in the court, and has the ſetting of the watch, &c.

Clerk of the Check in the royal dock-yards, an officer who keeps a muſter or regiſter of all the men employed aboard his majeſty's ſhips and veſſels, and alſo of all the artificers and others in the ſervice of the navy at the port where he is ſettled.

Check, in falconry, a term uſed of a hawk, when ſhe forſakes her proper game, to fly at pyes, crows, rooks, or the like, that croſs her in her flight.

CHECKY, in heraldry, is when the ſhield, or a bordure, &c. is chequered, or divided into chequers or ſquares, in the manner of a cheſs-board.

This is one of the moſt noble and moſt ancient figures uſed in armoury; and a certain author ſaith, that it ought to be given to none but great warriors, in token of their bravery: for the cheſs-board repreſents a field of battle; and the pawns placed on both ſides repreſent the ſoldiers of the two armies, which move, attack, advance, or retire, according to the will of the gameſters, who are the generals.

This figure is always compoſed of metal and colour. But ſome authors would have it reckoned among the ſeveral ſorts of furs.

CHEEK, in anatomy, that part of the face ſituated below the eyes on each ſide.

Cheeks, a general name among mechanics, for almoſt all thoſe pieces of their machines and inſtruments, that are double, and perfectly alike. Thus, the cheeks of a printing-preſs are its two principal pieces: they are placed perpendicular, and parallel to each other; ſerving to ſuſtain the three ſommers, viz. the head, ſhelves, and winter, which bear the ſpindle, and other parts of the machine. See Printing-*Preſs*.

The *cheeks of a turner's lathe*, are two long pieces of wood, between which are placed the puppets, which are either pointed or otherwiſe, ſerving to ſupport the work and the mandrils of the workman. Theſe two pieces are placed parallel to the horizon, ſeparated from one another by the thickneſs of the tail of the puppets, and joined with tenons to two other pieces of wood placed perpendicularly, called the *legs of the lathe*.

Cheeks of the glazier's vice, are two pieces of iron joined parallel at top and bottom; in which are the axis, or ſpindles, little wheel, cuſhions, &c. whereof the machine is compoſed.

The cheeks of a mortar, or the *brackets*, in artillery, are made of ſtrong planks of wood, bound with thick plates of iron, and are fixed to the bed by four bolts; they riſe on each ſide of the mortar, and to ſerve to keep her at what elevation is given her, by the help of ſtrong bolts of iron which go through both cheeks, both under and behind the mortar, betwixt which are driven coins of wood; theſe bolts are called the *bracket-bolts*, and the bolts which are put one in each end of the bed, are the traverſe-bolts, becauſe with handſpikes the mortar is by theſe traverſed to the right or left.

Cheeks, in ſhip-building, are two pieces of timber, fitted on each ſide of the maſt at the top, ſerving to ſtrengthen the maſts there. The uppermoſt bail or piece of timber in the beak of a ſhip, is called the *cheek*. The knees which faſten the beak-head to the ſhip, are called *cheeks*; and the ſides of any block, or the ſides of a ſhip's carriage of a gun, are called *cheeks*. Cheek.

CHEESE, a ſort of food prepared of curdled milk purged from the ſerum or whey, and afterwards dried for uſe.

Cheeſe differs in quality according as it is made from new or ſkimmed milk, from the curd which ſeparates ſpontaneouſly upon ſtanding, or that which is more ſpeedily produced by the addition of runnet. Cream alſo affords a kind of cheeſe, but quite fat and butyraceous, and which does not keep long. Analyzed chemically, cheeſe appears to partake much more of an animal nature than butter, or the milk from which it was made. It is inſoluble in every liquid except ſpirit of nitre, and cauſtic alkaline ley. Shaved thin, and properly treated with hot water, it forms a very ſtrong cement if mixed with quicklime *. When prepared with the hot water, it is recommended in the Swediſh memoirs to be uſed by anglers as a bait: it may be made into any form, is not ſoftened by the cold water, and the fiſhes are fond of it. As a food, phyſicians condemn the too free uſe of cheeſe. When new, it is extremely difficult of digeſtion: when old, it becomes acrid and hot; and, from Dr Percival's experiments, is evidently of a ſeptic nature. It is a common opinion that old cheeſe digeſts every thing, yet is left undigeſted itſelf; but this is without any ſolid foundation. Cheeſe made from the milk of ſheep digeſts ſooner than that from the milk of cows, but is leſs nouriſhing; that from the milk of goats digeſts ſooner than either, but is alſo the leaſt nouriſhing. In general, it is a kind of food fit only for the laborious, or thoſe whoſe organs of digeſtion are ſtrong. * See Cement.

Every country has places noted for this commodity: thus Cheſter and Glouceſter cheeſe are famous in England; and the Parmeſan cheeſe is in no leſs repute abroad, eſpecially in France. This ſort of cheeſe is entirely made of ſweet cow-milk: but at Rochefort in Languedoc, they make it of ewe's milk; and in other places it is uſual to add goat or ewe's milk in a certain proportion to that of the cow. There is likewiſe a kind of medicated cheeſe made by intimately mixing the expreſſed juice of certain herbs, as ſage, baum, mint, &c. with the curd before it is faſhioned into a cheeſe.—The Laplanders make a ſort of cheeſe of the milk of their rein-deer; which is not only of great ſervice to them as food, but on many other occaſions. It is a very common thing in theſe climates to have a limb numbed and frozen with the cold: their remedy for this is the heating an iron red hot, and thruſting it through the middle of one of theſe cheeſes; they catch what drops out, and with this anoint the limb, which ſoon recovers. They are ſubject alſo to coughs and diſeaſes of the lungs, and theſe they cure by the ſame ſort of medicine: they boil a large quantity of the cheeſe in the freſh deer's milk, and drink the decoction in large draughts warm ſeveral times a-day. They make a leſs ſtrong decoction of the ſame kind alſo, which they uſe as their common drink, for three or four days together, at ſeveral times of the year. They

Cheeſe do this to prevent the miſchiefs they are liable to from their water, which is otherwiſe their conſtant drink, and is not good.

The hundred weight of cheeſe pays on importation 1s. 3$\frac{4}{10}$d. and draws back on exportatioo 1s. 1$\frac{1}{2}$d. at the rate of 6s. 8d.

Beſt methods of making Cheeſe in England. The double Glouceſter is a cheeſe that pleaſes almoſt every palate. The beſt of this kind is made from new, or (as it is called in that and the adjoining counties) *covered milk*. An inferior ſort is made from what is called *half-covered milk*; though when any of theſe cheeſes turn out to be good, people are deceived, and often purchaſe them for the beſt *covered milk cheeſe*: but farmers who are honeſt have them ſtamped with a piece of wood made in the ſhape of a heart, ſo that any perſon may know them.

It will be every farmer's intereſt (if he has a ſufficient number of cows) to make a large cheeſe from one meal's milk. This, when brought in warm, will be eaſily changed or turned with the rennet; but if the morning or night's milk be to be mixed with that which is freſh from the cow, it will be a longer time before it turns, nor will it change ſometimes without being heated over the fire, by which it often gets duſt or ſoot, or ſmoke, which will give the cheeſe a very diſagreeable flavour.

When the milk is turned, the whey ſhould be carefully ſtrained from the curd. The curd ſhould be broken ſmall with the hands; and when it is equally broken, it muſt be put by little at a time into the vat, carefully breaking it as it is put in. The vat ſhould be filled an inch or more above the brim, that when the whey is preſſed out it may not ſhrink below the brim; if it does, the cheeſe will be worth very little. But firſt, before the curd is put in, a cheeſe-cloth or ſtrainer ſhould be laid at the bottom of the vat; and this ſhould be ſo large, that when the vat is filled with the curd, the ends of the cloth may turn again over the top of it. When this is done, it ſhould be taken to the preſs, and there remain for the ſpace of two hours; when it ſhould be turned and have a clean cloth put under it, and turned over as before. It muſt then be preſſed again, and remain in the preſs ſix or eight hours; when it ſhould again be turned and rubbed on each ſide with ſalt. After this it muſt be preſſed again for the ſpace of 12 or 14 hours more; when, if any of the edges project, they ſhould be pared off: it may then be put on a dry board, where it ſhould be regularly turned every day. It is a good way to have three or four holes bored round the lower part of the vat, that the whey may drain ſo perfectly from the cheeſe as not the leaſt particle of it may remain.

The prevailing opinion of the people of Glouceſterſhire and the neighbouring counties is, that the cheeſes will ſpoil if they do not ſcrape and waſh them when they are found to be mouldy. But others think that ſuffering the mould to remain, mellows them, provided they are turned every day. Thoſe, however, who will have the mould off, ſhould cauſe it to be removed with a clean dry flannel, as the waſhing the cheeſes is only a means of making the mould (which is a ſpecies of fungus rooted in the coat) grow again immediately.

Some people ſcald the curd: but this is a bad and mercenary practice; it robs the cheeſe of its fatneſs, and can only be done with a view to raiſe a greater quantity of whey butter, or to bring the cheeſes forward for ſale, by making them appear older than they really are. Cheeſe.

As moſt people like to purchaſe high-coloured cheeſe, it may be right to mix a little annatto with the milk before it is turned. No cheeſe will look yellow without it; and though it does not in the leaſt add to the goodneſs, it is perfectly innocent in its nature and effects.

It is not in the power of any perſon to make good cheeſe with bad rennet; therefore the following receipt ſhould be attended to. Let the *vell, maw, rennet-bag* (or by whatever name it is called), be perfectly ſweet; for if it be the leaſt tainted, the cheeſe will never be good. When this is fit for the purpoſe, three pints or two quarts of ſoft water (clean and ſweet) ſhould be mixed with ſalt, wherein ſhould be put ſweet-briar, roſe leaves and flowers, cinnamon, mace, cloves, and, in ſhort, almoſt every ſort of ſpice and aromatic that can be procured; and if theſe are put into two quarts of water, they muſt boil gently till the liquor is reduced to three pints, and care ſhould be taken that this liquor is not ſmoked. It ſhould be ſtrained clean from the ſpices, &c. and when found to be not warmer than milk from the cow, it ſhould be poured upon the vell or maw. A lemon may then be ſliced into it; when it may remain a day or two: After which it ſhould be ſtrained again, and put in a bottle; where, if well corked, it will keep good for twelve months or more. It will ſmell like a perfume; and a ſmall quantity of it will turn the milk, and give the cheeſe a pleaſing flavour. After this, if the vell be ſalted, and dried for a week or two near the fire, it will do for the purpoſe again almoſt as well as before.

Chedder cheeſe is held in high eſteem; but its goodneſs is ſaid to be chiefly owing to the land whereon the cows feed, as the method of making it is the ſame as is purſued throughout Somerſetſhire, and the adjoining counties.

Cheſhire cheeſe is much admired; yet no people take leſs pains with the rennet than the Cheſhire farmers. But their cheeſes are ſo large as often to exceed one hundred pounds weight each; to this (and the age they are kept, the richneſs of the land, and the keeping ſuch a number of cows as to make ſuch a cheeſe without adding a ſecond meal's milk) their excellence may be attributed. Indeed they ſalt the curd (which may make a difference), and keep the cheeſes in a damp place after they are made, and are very careful to turn them daily.

But of all the cheeſe this kingdom produces, none is more highly eſteemed than the Stilton, which is called the *Parmeſan* of England, and (except faulty) is never ſold for leſs than 1s. or 1s. 2d. per pound.

The Stilton cheeſes are uſually made in ſquare vats, and weigh from ſix to twelve pounds each cheeſe. Immediately after they are made, it is neceſſary to put them into ſquare boxes made exactly to fit them; they being ſo extremely rich, that except this precaution be taken they are apt to bulge out, and break aſunder. They ſhould be continually and daily turned in theſe boxes, and muſt be kept two years before they are properly mellowed for ſale.

Some make them in a net, ſomewhat like a cabbage net; ſo that they appear, when made, not unlike an acorn,

Cheeſe. corn. But theſe are never ſo good as the other, having a thicker coat, and wanting all that rich flavour and mellowneſs which make them ſo pleaſing. Cheeſe

It is proper to mention that the making of theſe cheeſes is not confined to the Stilton farmers, as many others in Huntingdonſhire (not forgetting Rutland and Northamptonſhires) make a ſimilar ſort, ſell them for the ſame price, and give all of them the name of *Stilton cheeſes*.

Though theſe farmers are remarked for cleanlineſs, they take very little pains with the rennet, as they in general only cut pieces from the vell or maw, which they put into the milk, and move gently about with the hand, by which means it breaks or turns it ſo, that they eaſily obtain the curd. But if the method above deſcribed for making rennet were put in practice, they would make their cheeſe ſtill better; at leaſt they would not have ſo many faulty and unſound cheeſes; for notwithſtanding their cheeſes bear ſuch a name and price, they often find them ſo bad as not to be ſaleable; which is probably owing to their being ſo careleſs about the rennet.

It has been alleged, that as good cheeſe might be made in other counties, if people would adhere to the Stilton plan, which is this—They make a cheeſe every morning; and to this meal of new milk they add the cream taken from that which is milked the night before. This, and the age of their cheeſes, have been ſuppoſed the only reaſons why they are preferred to others; for from the niceſt obſervation, it does not appear that their land is in any reſpect ſuperior to that of other counties.

Excellent cream cheeſes are made in Lincolnſhire, by adding the cream of one meal's milk to milk which comes immediately from the cow; theſe are preſſed gently two or three times, turned for a few days, and are then diſpoſed of at the rate of 1s. per pound, to be eaten while new with radiſhes, ſallad, &c.

Many people give ſkimmed milk to pigs, but the whey will do equally as well after cheeſes are made from this milk; ſuch cheeſes will always ſell for at leaſt 2d. per pound, which will amount to a large ſum annually where they make much butter. The peaſants and many of the farmers in the north of England never eat any better cheeſe; and though they appear harder, experience hath proved them to be much eaſier of digeſtion than any new milk cheeſes. A good market may always be found for the ſale of them at Briſtol.

Account of the making of Parmeſan Cheeſe: by Mr Zappa of Milan, in anſwer to queries from Arthur Young, Eſq.

"Are the cows regularly fed in ſtables?"—From the middle of April, or ſooner if poſſible, the cows are ſent to paſture in the meadows till the end of November uſually.

"Or only fed in ſtables in winter?"—When the ſeaſon is paſt, and ſnow comes, they are put into ſtables for the whole winter, and fed with hay.

"Do they remain in the paſture from morning till night? or only in hot weather?"—Between nine and ten in the morning the cows are ſent to water, and then to the paſtures, where they remain four or five hours at moſt, and at three or four o'clock are driven to the ſtables if the ſeaſon is freſh, or under porticos if hot; where, for the night, a convenient quantity of hay is given them.

"In what months are they kept at paſture the whole day?"—Moſtly anſwered already; but it might be ſaid, that no owner will leave his cattle, without great cauſe, in uncovered places at night. It happens only to the ſhepherds from the Alps, when they paſs, becauſe it is impoſſible to find ſtables for all their cattle.

"What is the opinion in the Lodeſan, on the beſt conduct for profit in the management of meadows?"—For a dairy farm of 100 cows, which yields daily a cheeſe weighing 70 to 75 lb. of 28 ounces, are wanted 1000 perticas of land. Of theſe about 800 are ſtanding meadows, the other 200 are in cultivation for corn and graſs fields in rotation.

"Do they milk the cows morning and evening?"—Thoſe that are in milk are milked morning and evening, with exception of ſuch as are near calving.

"One hundred cows being wanted to make a Lodeſan each day, it is ſuppoſed that it is made with the milk of the evening and the following morning; or of the morning and evening of the ſame day: how is it?"—The 100 cows form a dairy farm of a good large cheeſe; it is reckoned that 80 are in milk, and 20 with calves ſucking, or near calving. They reckon one with the other about 32 boccalis of 32 oz. of milk. Such is the quantity for a cheeſe of about 70 lb. of 28 ounces. They join the evening with the morning milk, becauſe ſo it is freſher than if it was that of the morning and evening of the ſame day. The morning milk would be 24 hours old when the next morning the cheeſe ſhould be made.

"Do they ſkim or not the milk to make butter before they make the cheeſe?"—From the evening milk all the cream poſſible is taken away for butter, maſcarponi (cream-cheeſe), &c. The milk of the morning ought to be ſkimmed ſlightly; but every one ſkims as much cream as he can. The butter is ſold on the ſpot immediately at 24 ſous; the cheeſe at about 28 ſous. The butter loſes nothing in weight; the cheeſe loſes one-third of it, is ſubject to heat, and requires expences of ſervice, attention, warehouſes, &c. before it is ſold; and a man in two hours makes 45 to 50 lb. of butter that is ſold directly. However, it is not poſſible to leave much cream in the milk to make Lodeſan cheeſe, called *grained cheeſe*; becauſe if it is too rich, it does not laſt long, and it is neceſſary to conſume it while young and ſound.

"Is Parmeſan or Lodeſan cheeſe made every day in the year or not?"—With 100 cows it is. In winter, however, the milk being leſs in quantity, the cheeſe is of leſſer weight, but certainly more delicate.

"After gathering or uniting the milk, either ſkimmed or not, what is exactly the whole operation?"—The morning of the 3d of March 1786, I have ſeen the whole operation, having gone on purpoſe to the ſpot to ſee the whole work from beginning to end. At 16 Italian hours, or ten in the morning, according to the northern way to account hours, the ſkimming of that morning's milk, gathered only two hours before, was finiſhed. I did, meanwhile, examine the boiler or pot. At the top it was eight feet (Engliſh) diameter, or thereabout; and about five feet three inches deep, made

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Cheefe. made like a bell, and narrowing towards the bottom to about two one-half feet. They joined the cream produced that morning with the other produced by the milk of the evening before. That produced by this laſt milk was double in quantity to that of the morning milk, becauſe it had the whole night to unite, and that of the morning had only two hours to do it, in which it could not ſeparate much. Of the cream ſome was deſtined to make maſcarponies (cream-cheeſe), and they put the reſt into the machine for making butter. Out of the milk of the evening before and of that morning that was all put together after ſkimming, they took and put into the boiler 272 boccali, and they put under it two faggots of wood; which being burnt, were ſufficient to give the milk a warmth a little ſuperior to lukewarm. Then the boiler being withdrawn from the fire, the foreman put into it the rennet, which they prepare in ſmall balls of one ounce each, turning the ball in his hand always kept in the milk entirely covered; and after it was perfectly diſſolved, he covered the boiler to keep the milk defended, that it might not ſuffer from the coldneſs of the ſeaſon, in particular as it was a windy day. I went then to look on the man that was making maſcarponies, &c. and then we went twice to examine if the milk was ſufficiently coagulated. At the 18 hours, according to the Italian clocks, or noon, the true manufactory of cheeſe began. The milk was coagulated in a manner to be taken from the boiler in pieces from the ſurface. The foreman, with a ſtick that had 18 points, or rather nine ſmall pieces of wood fixed by their middle in the end of it, and forming nine points in each ſide, began to break exactly all the coagulated milk, and did continue to do ſo for more than half an hour, from time to time examining it to ſee its ſtate. He ordered to renew the fire, and four faggots of willow branches were uſed all at once: he turned the boiler that the fire might act; and then the underman began to work in the milk with a ſtick like the above, but with only four ſmaller ſticks at the top, forming eight points, four at each ſide, a ſpan long each point. In a quarter of an hour the foreman mixed in the boiler the proper quantity of ſaffron, and the milk was all in knobs, and finer grained than before, by the effect of turning and breaking the coagulation, or curd, continually. Every moment the fire was renewed or fed; but with a faggot only at a time, to continue it regular. The milk was never heated much, nor does it hinder to keep the hand in it to know the fineneſs of the grain, which refines continually by the ſtick-work of the underman. It is of the greateſt conſequence to mind when the grain begins to take a conſiſtence. When it comes to this ſtate, the boiler is turned from the fire, and the underman immediately takes out the whey, putting it into proper receivers. In that manner the grain ſubſides to the bottom of the boiler; and leaving only in it whey enough to keep the grain covered a little, the foreman extending himſelf as much as he can over and in the boiler, unites with his hands the grained milk, making like a body of paſte of it. Then a large piece of linen is run by him under that paſte, while another man keeps the four corners of it, and the whey is directly put again into the boiler, by which is facilitated the means of raiſing that paſte that is taken out of the boiler, and put for one quarter of an hour into the receiver where the whey was put before, in the ſame linen it was taken from the boiler; which boiler is turned again directly on the fire, to extract the maſcarpa (whey-cheeſe); and is a ſecond product, eaten by poor people. After the paſte remained for a quarter of an hour in that receiver, it was taken out and turned into the wooden form called *faſſera*, without any thing elſe made than the rotundity, having neither top or bottom. Immediately after having turned it into that round wooden form, they put a piece of wood like a cheeſe on it, putting and increaſing gradually weights on it, which ſerve to force out the remnant of whey; and in the evening the cheeſe ſo formed is carried into the warehouſe, where, after 24 hours, they begin to give the ſalt. It remains in that warehouſe for 15 or 20 days; but in ſummer only from 8 to 12 days. Meanwhile the air and ſalt form the cruſt to it; and then it is carried into another warehouſe for a different ſervice. In the ſecond warehouſe they turn every day all the cheeſes that are not older than ſix months; and afterwards it is enough if they are only turned every 48 or 60 hours, keeping them clean, in particular of that bloom which is inevitable to them, and which, if neglected, turns muſty, and cauſes the cheeſe to aquire a bad ſmell. The Lodeſan, becauſe it is a province watered, has a great deal of meadows, and abounds with cows, its product being moſtly in cheeſe, butter, &c. However, the province of Pavia makes a great deal of that cheeſe; and we Milaneſe do likewiſe the ſame from the ſide of Porte Toſa, Romana, Ticineſe, and Vercillina, becauſe we have fine meadows and dairy farms.

Cheeſe ‖ Cheiranthus.

Cheeſe-Rennet. See GALLIUM and RUNNET.

CHEGOE, or NIGUA, the Indian name of an inſect common in Mexico, and alſo found in other hot countries where it is called *pique*, is an exceeding ſmall animal, not very unlike a flea, and is bred in the duſt. It fixes upon the feet, and breaking inſenſibly the cuticle, it neſtles betwixt that and the true ſkin, which alſo, unleſs it is immediately taken out, it breaks, and pierces at laſt to the fleſh, multiplying with a rapidity almoſt incredible. It is ſeldom diſcovered until it pierces the true ſkin, when it cauſes an intolerable itching. Theſe inſects, with their aſtoniſhing multiplication, would ſoon diſpeople thoſe countries, were it leſs eaſy to avoid them, or were the inhabitants leſs dexterous in getting them out before they begin to ſpread. On the other hand, nature, in order to leſſen the evil, has not only denied them wings, but even that conformation of the legs and thoſe ſtrong muſcles which are given to the flea for leaping. The poor, however, who are in ſome meaſure doomed to live in the duſt, and to a habitual neglect of their perſons, ſuffer theſe inſects ſometimes to multiply ſo far as to make large holes in their fleſh, and even to occaſion dangerous wounds.

CHEIRANTHUS, STOCK-GILLIFLOWER, or *Wall-flower*: A genus of the 39th natural order, *Siliquoſe*; and belonging to the tetradynamia claſs of plants. The germen is marked with a glandulous denticle on each ſide; the calyx is cloſe, with two of its leaves gibbous at the baſe; the ſeeds plane. The ſpecies are 13; but the following three are moſt worthy of notice. 1. The cheiri, or common wall-flower, with ligneous, long, tough roots; an upright, woody, abiding ſtalk, divided into many erect angular branches, forming a buſhy head from one to two feet high, cloſely garniſhed with

Cheiranthus || Cheke.

Cheke, Chekyang.

ſpear-ſhaped, acute, ſmooth leaves, and all the branches terminating in long erect ſpikes of numerous flowers, which in different varieties are yellow, bloody, white, &c. 2. The incanus, or hoary cheiranthus, with ligneous, long, naked, white roots; and upright, ſtrong, woody, abiding ſtem, from one to three feet high, branchy at top, adorned with long, ſpear-ſhaped, obtuſe, hoary leaves; and the top of the ſtalk and all the branches terminated by erect ſpikes of flowers from one to two or three feet long, of different colours in different varieties. 3. The annuus, or ten-weeks-ſtock, with an upright, woody, ſmooth ſtalk, divided into a branchy head, 12 or 15 inches high, garniſhed with ſpear-ſhaped, blunt, hoary leaves, a little indented, and all the branches terminated by long erect ſpikes of numerous flowers of different colours in different varieties.—The two firſt ſorts are very hardy evergreen biennials or perennials; but the laſt is an annual plant, ſo muſt be continued by ſeed ſown every year; and even the two firſt, notwithſtanding their being perennial, degenerate ſo much in their flowers after the firſt year, that it will be proper alſo to raiſe an annual ſupply of them. The ſeeds are to be ſaved only from the plants with ſingle flowers; for the double ones bring no ſeeds to perfection. The ſeeds are to be choſen from ſuch flowers as have five, ſix, or more petals, or from ſuch as grow near to the double ones. They may be ſown in the full ground in the ſpring, and may be afterwards tranſplanted. When fine doubles of the two firſt kinds are obtained, they may be multiplied by ſlips from the old plants.

CHEKAO, in natural hiſtory, the name of an earth found in many parts of the Eaſt Indies, and ſometimes uſed by the Chineſe in their porcelain manufactures. It is a hard and ſtony earth; and the manner of uſing it is this: they firſt calcine it in an open furnace, and then beat it to a fine powder. This powder they mix with large quantities of water: then ſtirring the whole together, they let the coarſer part ſubſide; and pouring off the reſt yet thick as cream, they leave it to ſettle, and uſe the matter which is found at the bottom in form of a ſoft paſte, and will retain that humidity a long time. This ſupplies the place of the earth called *hoache*, in the making of that elegant ſort of china-ware which is all white, and has flowers which ſeem formed by a mere vapour within its ſurface. The manner of their uſing it is this: they firſt make the veſſel of the common matter of the manufacture; when this is almoſt dry, they paint upon it the flowers, or whatever other figures they pleaſe, with a pencil dipt in this preparation of the chekao; when this is thoroughly dry, they cover the whole veſſel with the varniſh in the common way, and bake it as uſual. The conſequence is, that the whole is white: but the body of the veſſel, the figures, and the varniſh, being three different ſubſtances, each has its own particular white; and the flowers being painted in the fineſt white of all, are diſtinctly ſeen through the varniſh upon the veſſel, and ſeem as if traced by a vapour only. The hoache does this as well as the chekao; and has beſides this the quality of ſerving for making the porcelain ware either alone, or in the place of kaolin: the chekao has not this property, nor any other ſubſtance beſides this hoache, which appears to be the ſame with our ſteatites or ſoap-rock.

CHEKE (Sir John), a celebrated ſtateſman, grammarian, and divine, of an ancient family in the iſle of Wight, was born at Cambridge in the year 1514, and educated at St John's college in that univerſity; where, after taking his degrees in arts, he was firſt choſen Greek lecturer, and in 1540 profeſſor of that language, with a ſtipend of 40 l. a-year. In this ſtation he was principally inſtrumental in reforming the pronunciation of the Greek language, which, having been much neglected, was imperfectly underſtood. About the year 1543 he was incorporated maſter of arts at Oxford, where, we are told, he had ſtudied for ſome time. In the following year he was ſent to the court of king Henry VIII. and appointed tutor for the Latin language, jointly with Sir Anthony Cooke, to prince Edward, about which time he was made canon of the college newly founded in Oxford; wherefore he muſt have now been in orders. On the acceſſion of his royal pupil to the crown, Mr Cheke was firſt rewarded with a penſion of 100 merks, and afterwards obtained ſeveral conſiderable grants from the crown. In 1550 he was made chief gentleman of the privy-chamber, and was knighted the following year; in 1552, chamberlain of the exchequer for life; in 1553, clerk of the council; and ſoon after ſecretary of ſtate and privy-councellor. But theſe honours were of ſhort duration. Having concurred in the meaſures of the duke of Northumberland for ſettling the crown on the unfortunate Jane Grey, and acted as her ſecretary during the nine days of her reign, on the acceſſion of queen Mary, Sir John Cheke was ſent to the tower, and ſtript of the greateſt part of his poſſeſſions. In September 1554 he obtained his liberty, and a licence from her majeſty to travel abroad. He went firſt to Baſil, thence to Italy, and afterwards returned to Straſburg, where he was reduced to the neceſſity of reading Greek lectures for ſubſiſtence. In 1556 he ſet out in an evil hour to meet his wife at Bruſſels: but, before he reached that city, he was ſeized by order of king Philip II. hoodwinked, and thrown into a waggon; and thus ignominiouſly conducted to a ſhip, which brought him to the tower of London. He ſoon found that religion was the cauſe of his impriſonment; for he was immediately viſited by two Romiſh prieſts, who piouſly endeavoured to convert him, but without ſucceſs. However, he was at laſt viſited by Fleckenham; who told him from the queen, that he muſt either comply or burn. This powerful argument had the deſired effect; and Sir John Cheke accordingly complied in form, and his lands, upon certain conditions, were reſtored: but his remorſe ſoon put an end to his life. He died in September 1557, at the houſe of his friend Mr Peter Oſborne in Wood-ſtreet, London, and was buried in St Alban's church. He left three ſons, the eldeſt of whom, Henry, was knighted by queen Elizabeth. He wrote 1. A Latin tranſlation of two of St Chryſoſtom's homilies. Lond. 1543, 4to. 2. The Hurt of Sedition. Lond. 1549, 1576, 1641. 3. Latin Tranſlation of the Engliſh Communion Service. Printed among Bucer's opuſcula. 4. De pronunciatione Græcæ. Baſil, 1555, 8vo. 5. Several letters publiſhed in his life by Strype; and a great number of other books.

CHE-KYANG, or Tche-kiang, a maritime province of China, and one of the moſt conſiderable in the empire; is bounded on the ſouth by Fo-kien; on the north and weſt by Kiang-nan and Kiangſi; and on

Che-kyang on the eaſt by the ſea. The air is pure and healthful, and the ſoil fertile, being watered by a number of rivers and canals, as well as ſprings and lakes. The chief produce is ſilk; a vaſt quantity of which is cultivated here, and for which the whole country is covered with mulberry trees. Theſe are purpoſely checked in their growth by the natives, experience having taught them, that the leaves of the ſmalleſt trees produce the beſt ſilk. The ſtuffs made in this province, which are embroidered with gold and ſilver, are reckoned the beſt in the empire: and notwithſtanding a vaſt exportation to the Japan and Philippine iſlands, as well as to every part of China, and to Europe, ſuch an abundance is left in the province, that a complete ſuit of ſilk may be bought here as cheap as one of the coarſeſt woollen in France.

This province is alſo remarkable for a particular ſpecies of muſhrooms, which is exported to every part of the empire. They are pickled, and then dried; when they will keep good for a whole year. When uſed they muſt be ſoaked in water, which renders them as freſh as at firſt. Here alſo the tallow tree is met with; and the province affords excellent hams, and thoſe ſmall gold-fiſhes with which the ponds are uſually ſtocked.

Che-kyang contains 11 cities of the firſt claſs, 72 of the third, and 18 fortreſſes, which, in Europe, would be accounted large cities. The principal of theſe are, 1. Hang-tcheou-fou, the metropolis, accounted by the Chineſe to be the paradiſe of the earth. It is four leagues in circumference, excluſive of the ſuburbs; and the number of its inhabitants are computed at more than a million, and 10,000 workmen are ſuppoſed to be employed within its walls in manufacturing of ſilk. Its principal beauty is a ſmall lake, cloſe to the walls on the weſtern ſide, the water of which is pure and limpid, and the banks almoſt every where covered with flowers. Its banks are likewiſe adorned with halls and open galleries ſupported by pillars, and paved with large flag-ſtones for the convenience of thoſe who are fond of walking; and the lake itſelf is interſected with cauſeways caſed with cut-ſtone, openings covered with bridges being left in them for the paſſage of boats. In the middle are two iſlands with a temple and ſeveral pleaſure-houſes, and the emperor has a ſmall palace in the neighbourhood. The city is garriſoned by 3000 Chineſe and as many Tartars, and has under its juriſdiction ſeven cities of the third claſs. 2. Hou-tcheou-fou is alſo ſituated on a lake, and manufactures an incredible quantity of ſilk, inſomuch, that the tribute of a city under its juriſdiction amounts to more than 500,000 ounces of ſilver. 3. Ning-po-fou, by Europeans called Liampo, is an excellent port, oppoſite to Japan. Eighteen or twenty leagues from it is an iſland called Tcheou-chan, where the Engliſh firſt landed on their arrival at China. 4. Ning-po is remarkable for the ſilk manufactured there, which is much eſteemed in foreign countries, eſpecially Japan, where it is exchanged for gold, ſilver, and copper. 5. Chaoking-fou, ſituated in an extenſive and fertile plain, is remarkable for a tomb about half a league diſtant, which is ſaid to be that of *Yu*. The people of this province are ſaid to be the moſt verſed in chicanery of any in China. 6. Tcho-tcheou-fou, remarkable for having in its neighbourhood pines of an extraordinary ſize, capable of containing 40 men in their trunks. The inhabitants are ingenious, polite, and courteous to ſtrangers, but very ſuperſtitious. Chelidonias

CHELIDONIAS, according to Pliny, an anniverſary wind, blowing at the appearance of the ſwallows; otherwiſe the Favonius, or Zephyrus. Chelſea.

CHELIDONIUM, Celandine, and Horned or prickly poppy: A genus of the monogynia order, belonging to the pentandria claſs of plants; and in the natural method ranking under the 27th order, *Rhœadæ*. The corolla is tetrapetalous, the calyx diphyllous, the ſiliqua unilocular and linear. There are ſix ſpecies, none of which are remarkable for their beauty; but one of them, viz. the majus, is an article in the materia medica. It grows on old walls, among rubbiſh, and in waſte ſhady places. The herb is of a bluiſh green colour; the root of a deep red; and both contain a gold-coloured juice: their ſmell is diſagreeable, the taſte ſomewhat bitteriſh, very acrid, burning and hiting the mouth; the root is the moſt acrid. The juice takes off warts; cures tetters, ring-worms, and the itch; and, diluted with milk, it conſumes opaque white ſpots on the eye.—Horſes, cows, goats, and ſwine, refuſe to eat the herb.

CHELIDONIUS lapis, in natural hiſtory, a ſtone ſaid by the ancients to be found in the ſtomachs of young ſwallows, and greatly cried up for its virtues in the falling-ſickneſs; but, from their deſcription, it appears to be only a ſpecies of lycodontes, or huſonitæ. See Lycodontes, and Buſonitæ.

CHELM, a town of Poland, capital of a palatinate of the ſame name. It is ſituated in the province of Red Ruſſia. E. Long. 23. 30. N. Lat. 51. 25.

CHELMSFORD, the county town of Eſſex, ſituated on the river Chelmer, in E. Long. 0. 30. N. Lat. 51. 40. It ſends two members to parliament.

CHELONE, in botany: A genus of the angioſpermia order, belonging to the didynamia claſs of plants; and in the natural method ranking under the 40th order, *Perſonatæ*. The calyx is quinquepartite; the rudiment of a fifth filament among the higheſt ſtamina, the capſule bilocular. There are three ſpecies, viz. the Glabra, the Hirſuta, and the Penſtemon. They are natives of North America; and are herbaceous flowery perennials, with upright ſtalks two feet high, decorated with ſpear-ſhaped leaves, and beautiful ſpikes of monopetalous, ringent flowers, red, roſe-coloured, blue, and purple. They flower from September to November, and are ſometimes ſucceeded by ripe ſeeds in this country. They are very hardy plants, and may be propagated by ſeeds ſown in any ſoil or ſituation; but the two firſt multiply ſo faſt by their creeping roots, that the ſeeds are ſeldom regarded.

CHELSEA, a fine village ſituated on the northern bank of the river Thames, a mile weſtward of Weſtminſter, remarkable for a magnificent hoſpital of invalids and old decrepit ſoldiers; and a pleaſure houſe, called Ranelagh, to which a great deal of fine company reſort in ſummer; and a noble botanic garden belonging to the company of apothecaries. The royal hoſpital of invalids was begun by Charles II. carried on by James II. and finiſhed by king William. It conſiſts of a vaſt range of buildings, that form three large ſquares, in which there is an uncommon air of neatneſs and elegance obſerved. It is under the direction of commiſſioners, who conſiſt generally of the

Chelſea. officers of ſtate and of war. There is a governor with 500l. ſalary, a lieutenant governor with 400l. and a major, with 250l. beſides inferior officers, ſerjeants, corporals and drums, with about 400 men, who all do garriſon duty; and there are above 10,000 out penſioners who receive an annuity of 7l. 12s. 6d. each; all which expence is defrayed by a poundage deducted from the army, deficiences being made good by parliament.—The botanic garden is very extenſive, enriched with a vaſt variety of domeſtic and exotic plants, the original ſtock of which was given to the apothecaries of London by Sir Hans Sloane.—At Ranelagh Garden and amphitheatre the entertainment is a fine band of muſic, with an organ and ſome of the beſt voices, and the regale is tea and coffee. Chelſea.

Cheltenham, Chemiſe. CHELTENHAM, or CHILTENHAM, a market town of Glouceſterſhire, ſeven miles north-eaſt of Glouceſter. W. Long. 2. 10. N. Lat. 51. 50. It is chiefly remarkable for its mineral waters, of the ſame kind with thoſe of Scarborough. See SCARBOROUGH.

CHEMISE, in fortification, the wall with which a baſtion, or any other bulwark of earth, is lined for its greater ſupport and ſtrength: or it is the ſolidity of the wall from the talus to the ſtone-row.

Fire-CHEMISE, a piece of linen cloth, ſteeped in a compoſition of oil of petrol, camphor, and other combuſtible matters, uſed at ſea, to ſet fire to an enemy's veſſel.

CHEMISTRY

1 Definition. MAY be defined, The ſtudy of ſuch phenomena or properties of bodies as are diſcovered by variouſly mixing them together, and by expoſing them to different degrees of heat, alone, or in mixture, with a view to the enlargement of our knowledge in nature, and to the improvement of the uſeful arts: or, It is the ſtudy of the effects of heat and mixture upon all bodies, whether natural or artificial, with a view to the improvement of arts and natural knowledge.

2 Antiquity. The ſcience of chemiſtry is undoubtedly of very high antiquity; and, like moſt other ſciences, its origin cannot be traced. In ſcripture, Tubal Cain, the 8th from Adam, is mentioned as the father or inſtructor of every artificer in braſs or iron. This, however, does not conſtitute him a chemiſt, any more than a founder or blackſmith among us has a right to that title. The name of chemiſt could only belong to him, whoever he was, who firſt diſcovered the method of extracting metals from their ores; and this perſon muſt neceſſarily have lived before Tubal Cain, as every blackſmith or founder muſt have metals ready prepared to his hand. Nevertheleſs, as Tubal Cain lived before the flood, and the ſcience of chemiſtry muſt have exiſted before his time, ſome have conjectured, that the metallurgic part, on account of its extreme uſefulneſs to mankind, was revealed to Adam by God himſelf.

3 Science founded. Be this as it will, *Sipheas*, an Egyptian, is conſidered by the chemiſts as the founder of their ſcience. He was known by the Greeks under the name of *Hermes*, or *Mercurius Triſmegiſtus*; and is ſuppoſed to have lived more than 1900 years before the Chriſtian æra. A numerous liſt of this philoſopher's works is given by Clemens Alexandrinus; but none of them are now to be found, nor do any of them appear to have been written profeſſedly on chemiſtry.

Two illuſtrious Egyptians, of the name of Hermes, are recorded by ancient authors. The elder ſuppoſed to be the ſame with *Mizraim*, the grandſon of Noah, the *Hermes* of the Greeks, and *Mercury* of the Romans. The younger Hermes lived a thouſand years afterwards; and is ſuppoſed to have reſtored the ſciences after they had fallen into oblivion, in conſequence of an inundation of the Nile. No leſs than 36,000 books are ſaid to have been written under the name of Hermes; but, according to Jamblichus, a cuſtom prevailed of inſcribing all books of ſcience with the name of Hermes. Some authors deny the exiſtence of Hermes, and maintain that his hiſtory is allegorical

4 Moſes ſuppoſed to be ſkilled in chemiſtry. As the ſcience of chemiſtry is ſuppoſed to have been well known to the Egyptians, Moſes, who was ſkilled in their wiſdom, is thence ranked among the number of chemiſts; a proof of whoſe ſkill in this ſcience is thought to be, his diſſolving the golden calf made by the Iſraelites, ſo as to render it potable.

Of all the Greeks who travelled into Egypt in order to acquire knowledge, Democritus alone was admitted into their myſteries. The Egyptian prieſts are ſaid to have taught him many chemical operations; among which were the art of ſoftening ivory, of vitrifying flints, and of imitating precious ſtones. Dr Black, however, is of opinion, that Democritus knew nothing more of theſe arts than that of making a coarſe kind of glaſs, as no mention is particularly made of his imitating any other precious ſtone than the emerald, whoſe colour is green; and the coarſer the glaſs the greener it is.

After the time of Democritus, we may know that conſiderable improvements were made in chemiſtry, as phyſicians began to make uſe of metallic preparations, as ceruſe, verdegris, litharge, &c. Dioſcorides deſcribes the diſtillation of mercury from cinnabar by means of an *embic*, from which, by adding the Arabic *Al*, comes the term *Alembic*. The art of diſtillation, however, at that time, was in a very rude ſtate; the operation being performed chiefly by ſeparating the air, and more ſubtle part of tar, from the reſt of the matter. This was done by putting the matter to be diſtilled into a veſſel, the mouth of which was covered with a wet cloth; and by this the ſteams of aſcending vapour were condenſed, which were afterwards procured by wringing out the cloth. No other diſtillation, beſides this kind, is mentioned by Galen, Oribaſius, Ælian, or Paulus Ægineta. 5 Derivation of the word Alembic. 6 Original method of diſtilling.

The preciſe time is not known when the three mineral acids were firſt diſcovered; though, as no mention is made of them by Geber, Avicenna, or Roger Bacon, it is probable that they were not known in the 12th century.

tury. Raymond Lully gives ſome hints of his being acquainted with the marine acid; whence it is probable, that it was diſcovered towards the end of the 13th, or beginning of the 14th, century.

7 Pliny's account of the origin of glaſs-making.

Several chemical facts are related by Pliny, particularly the making of glaſs, which he aſcribes to the following accident. "Some merchants in the Levant, who had nitre on board their ſhip, having occaſion to land, lighted a fire on the ſand in order to prepare their food. To ſupport their veſſels they took ſome of the lumps of nitre with which their ſhip was loaded; and the fire acting on theſe, melted part of them along with the ſand, and thus formed the tranſparent ſubſtance called glaſs, to the great ſurpriſe of the beholders." But it is probable, that the art of glaſs-making was known long before; and it is by no means likely that it took its riſe from ſuch an accident.

The next traces we find of chemiſtry are to be extracted from the extravagant purſuits of the *Alchemiſts*, who imagined it poſſible to convert the baſer metals into gold or ſilver. The firſt mention we find of this ſtudy is by Julius Firmicus Maternus, who lived in the beginning of the fourth century, and ſpeaks of it as a well known purſuit in his time. Æneas Blaſius, who lived in the fifth century, likewiſe ſpeaks of it; and Suidas explains the term by telling us, that it is the art of making gold and ſilver. He tells us, that Dioclesian, when perſecuting the Chriſtians, forbad all chemical operations, leſt his ſubjects ſhould diſcover the art of making gold, and thus be induced to rebel againſt him. He ſuppoſes alſo, that the Argonautic expedition was only an attempt to procure a ſkin or parchment, on which was written the *receipt* for making gold. It is a common practice, however, in ſome places where gold is waſhed down in ſmall particles by brooks and rivulets from the mountains, to ſuſpend in the water the ſkins of animals having wool or hair upon them, in order to detain the heavier particles which contain the gold; and this probably gave riſe to the fable of the golden fleece. Suidas, however, who lived as late as the tenth century, deſerves very little credit, eſpecially as alchemy is not mentioned by any ancient author.—The Arabian phyſicians afford the moſt clear and diſtinct evidence concering alchemy. Avicenna, who lived in the tenth century, is ſaid by a diſciple of his to have wrote upon alchemy; he mentions alſo roſe-water, and ſome other chemical preparations; and in the 12th century we find phyſicians adviſed to cultivate an acquaintance with the chemiſts; and another of the Arbian writers ſay, that the method of preparing roſe-water, &c. was then well known.—From this evidence of the exiſtence of alchemy among the Arabians, with the prefatory article *Al*, to denote the greatneſs of the ſcience, it has been conjectured, that the doctrine of the tranſmutation of metals firſt took its riſe among the Arabians, and was introduced into Europe by means of the Cruſades, and by the rapid conqueſts of the Arabians themſelves in Europe as well as in Aſia and Africa. Europe at that time had been in a ſtate of the greateſt barbarity from the incurſions of the northern nations; but the Arabians contributed to revive ſome of the ſciences, and introduced alchemy among the reſt, which continued till the middle of the 17th century; at which time the extravagance of its profeſſors roſe to the greateſt height.

8 Alchemy firſt mentioned by Firmicus Maternus.

9 Origin of the fable of the Argonauts.

10 Alchemy firſt ſuppoſed to be derived from the Arabians.

11 No credit due to the doctrine of tranſmutation.

Though the pretenſions of the alchemiſts are now univerſally refuted, yet from ſome of the diſcoveries which have been made in chemiſtry, we are even yet in danger of giving ſome credit to the poſſibility of the proceſs of tranſmutation. When we conſider that the metals are bodies compounded of parts which we can take away and reſtore, and that they are cloſely allied to one another in their external appearance, we may be inclined to think favourably even of the projects of the alchemiſts. The very ſeparation of the metals from their ores, the depriving them of their ductility and malleability, and the reſtoration of theſe properties to them at pleaſure, will appear very ſurpriſing to thoſe who are unacquainted with chemiſtry. There are alſo proceſſes of the more difficult kind, by which quickſilver may be produced from metals that are commonly ſolid, as from lead. Some of theſe we find in Boerhaave, Boyle, &c. authors of the greateſt credit, who both ſpeak of the operation and product as realities of which they were convinced by their own experience. Theſe have been urged, not without ſome plauſibility, in favour of the tranſmutation of the imperfect metals into gold; and hence the deluſions of alchemy were not confined to the vain, the ignorant, and the ambitious part of mankind; but many ingenious and learned men, who took pleaſure in the ſtudy of nature, have been ſeduced into this unhappy purſuit. This happened chiefly in Germany, where the variety of mines naturally turned the thoughts of chemiſts principally towards the metals, though the numerous failures of thoſe who had attempted this art ought to have taught them better.

12 Quickſilver produced from lead.

About the beginning of the 16th century, the pretenders to alchemy were very numerous, and a multitude of knaves, who had beggared themſelves in the attempt, now went about to enſnare others, performing legerdemain tricks, and cauſing people believe that they could actually make gold and ſilver. A number of the tricks they made uſe of are to be met with in Lemery. Many books, with the ſame deſign of impoſing upon mankind, were written upon the ſubject of alchemy. They aſſumed fictitious names of the greateſt antiquity, and contained rules for preparing the philoſopher's ſtone; a ſmall quantity of which thrown into a baſe metal ſhould convert the whole into gold. They are wrote in a myſterious ſtyle, without any diſtinct meaning; and though ſometimes proceſſes are clearly enough deſcribed, they are found to be falſe and deceitful upon trial, the products not anſwering the pretenſions of the authors. Their excuſe was, that it was vain to expect plain accounts of theſe matters, or that the books on theſe ſubjects ſhould be written diſtinctly and clearly; that the value of gold was in proportion to its ſcarcity, and that it might be employed to bad purpoſes: they wrote only for the laborious and judicious chemiſts, who would underſtand them provided they made themſelves acquainted with the metals by ſtudy and experience. But in fact, no diſtinct meaning has ever been obtained, and the books have only ſerved to delude and betray a great number of others into the loſs of their *lives*.

But though the alchemiſts failed in the execution of their

their grand project, we muſt ſtill own ourſelves indebted to them for many diſcoveries brought to light during the time they vainly ſpent their labour in the expectation of making gold. Some of theſe are the methods of preparing ſpirit of wine, aquafortis, volatile alkali, vitriolic acid, and gun-powder. Medicine too was indebted to them for ſeveral valuable remedies; whence alſo it appears that many, who had waſted their time in the vain purſuit of the philoſopher's ſtone, thought of trying ſome of their moſt elaborate preparations in the cure of diſeaſes; and meeting with ſome ſucceſs, they preſumed that diſeaſes were only to be cured by the aſſiſtance of chemiſtry; and that the moſt elaborate of all its preparations, the philoſopher's ſtone, would cure all diſeaſes. Some cures they performed did indeed awaken the attention of phyſicians; and they introduced the uſe of opium, which had formerly been accounted poiſonous. They ſucceeded alſo in the cure of the venereal diſeaſe, which had lately made its appearance, and baffled the regular phyſicians; but the chemiſts, by giving mercury, put a ſtop to its ravages, and thus introduced this valuable article into the materia medica.

13 Chemiſtry deſerved ſome advantages from the labours of the alchemiſts.

14 Account of Paracelſus.

The moſt famous of the chemical profeſſors was Paracelſus, well known for his arrogance, abſurdity, and profligacy. He was bred to the ſtudy of medicine; but becoming acquainted with the alchemiſts, travelled about in the character of a phyſician, and was at great pains to collect powerful medicines from all quarters. Theſe he uſed with great freedom and boldneſs. His ſucceſs in ſome caſes operated ſo upon the natural arrogance and ſelf-ſufficiency of his diſpoſition, that he formed a deſign of overturning the whole ſyſtem of medicine, and ſupplying a new one from chemiſtry: and indeed he found but very weak adverſaries in the ſubtle theories of Galen with the refinements of the Arabian phyſicians, which only prevailed in his time; and he no doubt had ſome ſhare in baniſhing that veneration which had been ſo long entertained for theſe celebrated perſonages.

15 Hiſtory of chemiſtry ſince the time of Paracelſus.

From the time of Paracelſus, chemiſtry began every where to aſſume a new face. In our own country, Lord Verulam amuſed himſelf at his leiſure hours with forming plans for promoting the ſciences in general, eſpecially thoſe which related to the ſtudy of nature. He ſoon found that chemiſtry might turn out one of the moſt uſeful and comprehenſive branches of natural philoſophy, and pointed out the means of its improvement. A number of experiments were propoſed by him; but he obſerved, that the views of chemiſts were as yet only adapted to explain their particular operations on metals; and he obſerved, that, inſtead of the abſtruſe and barren philoſophy of the times, it was neceſſary to make a very large collection of facts, and to compare them with each other very maturely and cautiouſly, in order to diſcover the common cauſes and circumſtances of connection upon which they all depend. He did not, however, make any conſiderable diſcoveries, and his works are tedious and diſagreeable to the reader.

16 The ſcience ſtudied by Lord Verulam;

17 And by Mr Boyle.

A ſuperior genius to Lord Verulam was Mr Boyle, who was born the very day that the former died. His circumſtances were opulent, his manners agreeable; he was endowed by nature with a goodneſs of heart; and his inclination led him entirely to the ſtudy of nature, which he was beſt pleaſed with cultivating in the way of experiment. He conſidered the weight, ſpring, and qualities of the air; and wrote on hydroſtatics and other ſubjects; and was poſſeſſed of that happy penetration and ingenuity ſo well ſuited to the making of experiments in philoſophy, which ſerves to deduce the moſt uſeful truths from the moſt ſimple and ſeemingly inſignificant facts. As chemiſtry was his favourite ſcience, he ſpared no pains to procure from chemiſts of greateſt note the knowledge of curious experiments, and entertained a number of operators conſtantly about him. His diſcoveries are related in an eaſy ſtyle; and though rather copious, ſuited to the taſte of the times in which he lived, and free from that abſurd and myſterious air which formerly prevailed in chemical writings: nor does he betray a deſign of concealing any thing except ſome particulars which were communicated to him under the notion of ſecrecy, or the knowledge of which might do more harm than good. It is objected indeed, that he betrays a good deal of credulity with regard to facts which are given on the faith of others, and which may ſeem incredible; but this proceeded from his candour, and his being little diſpoſed to ſuſpect others. He ſhowed the neceſſary connection between philoſophy and the arts; and ſaid, that by attending the ſhop of a workman, he learned more philoſophy than he had done in the ſchools for a long time. Thus his writings ſhowed an univerſal taſte for the ſtudy of nature, which had now made ſome advances in the other parts of the world.

18 Chemiſtry emerges from its obſcurity.

Agricola is one of the firſt and beſt authors on the ſubject of metallurgy. Being born in a village in Miſnia, a country abounding in mines and metallurgic works, he deſcribed them exactly and copiouſly. He was a phyſician, and cotemporary with Paracelſus, but of a character very different. His writings are clear and inſtructive, as thoſe of Paracelſus are obſcure and uſeleſs. Lazarus Erker, Schioder, Schlutter, Henkel, &c. have alſo written on metallurgy, and deſcribed the art of aſſaying metals. Anthony Neri, Dr Merret, and the famous Kunkel (who diſcovered the phoſphorus of urine), have deſcribed very fully the arts of making glaſs, enamels, imitations of precious ſtones, &c.: but their writings, as well as thoſe of ſucceeding chemiſts, are not free from the illuſions of alchemy; ſo true it is, that an obſtinate and inveterate malady never diſappears at once, without leaving traces behind. In a ſhort time, however, the alchemical phrenzy was attacked by many powerful antagoniſts, who contributed to reſcue the ſcience of chemiſtry from an evil which at once diſgraced it and retarded its progreſs. Among theſe, the moſt diſtinguiſhed are Kircher a Jeſuit, and Conringius a phyſician, who wrote with much ſucceſs and reputation.

19 Royal Society how founded.

About the year 1630 the Royal Society was formed by a number of gentlemen who were unwilling to engage in the civil wars; and being ſtruck with the extenſive views of Lord Verulam and Mr Boyle, contributed to the expence of coſtly experiments. This example appeared ſo noble, and the deſign ſo good, that it has been followed by all the civilized ſtates of Europe, and has met with the protection of their reſpective ſovereigns; and from theſe chemiſtry has received conſiderable improvements. In France, Geoffroy, Lemery, Reaumur, &c. came to be diſtinguiſh-

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ed; and in Germany Margraaf, Pott, and others, have made a conſiderable figure in thoſe ſocieties. Kunekel, Begar, Stahl, and Hoffman, &c. have done great ſervice to ſociety, by introducing new arts, and the numerous improvements they have made.

20 Of the improvements made by different nations in chemiſtry.

The chemiſts who have made a figure in Germany and France are more in number than thoſe whom our iſland has produced. In France, the ſociety was encouraged by the ſovereign; and in it they have diveſted themſelves of that myſterious air which was affected in former ages. In Germany, the richneſs of the country, and the great variety of mines, by turning the attention of chemiſts to the metals, have given that alchymiſtical air to their writings which we obſerve in them. The number of thoſe who have applied themſelves to chemiſtry is very ſmall in England, owing to the great improvements made by Sir Iſaac Newton in the ſciences of aſtronomy and optics; which, by turning the general attention that way, has occaſioned what may be called a neglect of chemiſtry. But if their number be inconſiderable, they are by no means inferior in merit and fame. The name of Boyle has always been held in the higheſt eſteem, as well as that of Hales, for the analyſis he has made of the air. Sir Iſaac Newton alone has done more to the eſtabliſhing a rational chemical theory than ever was done before. Of late, the taſte for the ſtudy has became more general, and many uſeful books have appeared; ſo that it is to be hoped we ſhall ſoon excel in this branch of ſcience, as we have done in all the reſt.

PART I. THEORY OF CHEMISTRY.

21 Perfect Theory, what.

ACCORDING to the definition we have given of this ſcience, the theory of it ought to conſiſt in a thorough knowledge of all the phenomena which reſult from every poſſible combination of its objects with one another, or from expoſing them in all poſſible ways to thoſe ſubſtances which chemiſts have found to be the moſt active in producing a change. So various, however, and ſo widely extended are the objects of chemiſtry (comprehending all terreſtrial bodies whatever), that a knowledge of this kind is utterly unattainable by man. The utmoſt that can be done in this caſe is, to give ſome account of the phenomena which accompany the mixtures of particular ſubſtances, or the appearances they put on when expoſed to heat; and theſe have been already ſo well aſcertained, that they may now be laid down as rules, whereby we may, with a good deal of certainty, judge of the event of our experiments, even before they are made.

22 Objects of Chemiſtry, what.

Here we muſt obſerve, that though the objects of chemiſtry are as various as there are different ſubſtances in the whole ſyſtem of nature, yet they cannot all be examined with equal eaſe. Some of theſe ſubſtances act upon others with great violence; and the greater their activity, the more difficultly are they themſelves ſubjected to a chemical examination. Thus, fire, which is the moſt active body in nature, is ſo little the ſubject of examination, that it hath hitherto baffled the ingenuity of the greateſt philoſophers to underſtand its compoſition. This ſubſtance, therefore, though it be the principal if not the only *agent* in chemiſtry, is not properly an *object* of it, becauſe it cannot be made a ſubject of any chemical operation.

23 Suppoſition of elements the origin of alchemy.

It hath been cuſtomary to conſider all bodies as compoſed of certain permanent and unchangeable parts called *elements*; and that the end of chemiſtry was to reſolve bodies into theſe elements, and to recompoſe them again by a proper mixture of the elements when ſo ſeparated. Upon this ſuppoſition the alchemiſts went; who, ſuppoſing that all bodies were compoſed of ſalt, ſulphur, and mercury, endeavoured to find out the proportions in which theſe exiſted in gold, and then to form that metal by combining them in a ſimilar manner. Had they taken care to aſcertain the real exiſtence of their elements, and, by mixing them together, compoſed any one metal whatever, though but a grain of lead, the leaſt valuable of them all; their pretenſions would have been very rational and well founded; but as they never aſcertained the exiſtence of ſuch elementary bodies, it is no wonder that their labours were never attended with ſucceſs.

24 Mr Boyle's opinion.

Another ſet of elements which were as generally received, and indeed continue to be ſo in ſome meaſure to this day, are fire, air, earth, and water.—This doctrine of elements was ſtrenuouſly oppoſed by Mr Boyle; who endeavoured to prove, that fire was not an element *per ſe*, but generated merely from the motion of the particles of terreſtrial bodies among one another; that air was generally produced from the ſubſtance of ſolid bodies; and that water, by a great number of diſtillations, was converted into earth. His arguments, however, concerning fire were not at all concluſive; nor does the expulſion of air from fixed bodies prove that any of their ſolid parts were employed in the compoſition of that air; as later diſcoveries have ſhown that air may be abſorbed from the external atmoſphere, and fixed in a great number of ſolid ſubſtances. His aſſertion concerning water deſerves much conſideration, and the experiment is well worth repeating; but it does not appear that he, or any other perſon, ought to have relied upon the experiment which was intended to prove this tranſmutation. The fact was this. Having deſigned to try the poſſibility of reducing water to earth by repeated diſtillations, he diſtilled an ounce of water three times over himſelf, and found a ſmall quantity of earth always remaining. He then gave it to another, who diſtilled it 197 times. The amount of earth from the whole diſtillations was ſix drams, or $\frac{1}{4}$ths of the quantity of water employed; and this earth was fixed, white, and inſoluble in water.—Here it is evident, that great ſuſpicions muſt lie againſt the fidelity of the unknown operator, who no doubt would be wearied out with ſuch a number of diſtillations. The affair might appear trivial to him; and as he would perhaps know to which ſide Mr Boyle's opinion inclined, he might favour it, by mixing ſome white earth with the water. Had the experiment been tried by Mr Boyle's own hand, his known character would have put the matter beyond a doubt.

The decompoſition of water, however, in another way, by the combination of one part of it with the

phlogiſtic, and another with the earthy part of a metal, is now well aſcertained, and the experiments which led to the diſcovery are treated of under the articles ARAOLOGY and WATER.

25 Exiſtence of elements diſputed.

Even the exiſtence of earth as an element appears as dubious as that of the others; for it is certain that there is no ſpecies of earth whatever, from which we can produce two diſſimilar bodies, by adding their other component parts.—Thus, the earth of alum has all the characters of ſimplicity which we can deſire in any terreſtrial ſubſtance. It is white, inſipid, inodorous, and perfectly fixed in the fire; nevertheleſs, it ſeems to be only an element of that particular body called *alum*; for though alum is compoſed of a pure earth and vitriolic acid joined together, and Epſom ſalt and ſelenite are both compoſed of a pure earth combined with the ſame acid; yet by adding oil of vitriol to the earth of alum, in any poſſible way, we ſhall never be able to form either Epſom ſalt or ſelenite. In like manner, though all the imperfect metals are compoſed of inflammable matter joined with an earthy baſis; yet by adding to earth of alum any proportion we pleaſe of inflammable matter, we ſhall never produce a metal; and what is ſtill more mortifying, we can never make the earthy baſis of one metallic ſubſtance produce any other metal than that which it originally compoſed.

26 Elements neceſſarily inviſible.

A little conſideration upon the ſubject of elements will convince us, not only that no ſuch bodies have ever yet been diſcovered, but that they never will; and for this plain reaſon, that they muſt be in their own nature inviſible.—The component parts of any ſubſtance may with propriety enough be called the elements of that ſubſtance, as long as we propoſe carrying the decompoſition no farther; but theſe elements have not the leaſt property reſembling any ſubſtance which they compoſe. Thus, it is found that the compound ſalt called *ſal ammoniac*, is formed by the union of an acid and an alkali: we may therefore properly enough call theſe two the elements of ſal ammoniac; but, taken ſeparately, they have not the leaſt reſemblance to the compound, which is formed out of them. Both the acid and alkali are by themſelves ſo volatile as to be capable of diſſipation into an inviſible vapour by the heat of one's hand; whereas, when joined together, they are ſo fixed as almoſt to endure a red heat without going off. If, again, we were to ſeek for the elements of the acid and alkali, we muſt not expect to find them have any properties reſembling either an acid or an alkali, but others quite different. Any common element of all bodies muſt therefore be a ſubſtance which has no property ſimilar to any other in the whole ſyſtem of nature, and conſequently muſt be imperceptible.

27 Suppoſition concerning phlogiſton.

To the above-mentioned four elements, viz. fire, air, earth, and water, a kind of *fifth* element has generally been added, but not uſually diſtinguiſhed by that name, though it has apparently an equal, if not a greater, right to the title of an *element* than any of the others. This ſubſtance is called the *phlogiſton*, or inflammable principle; on which the ignition of all bodies depends. The exiſtence of this element was firſt aſſerted by Stahl, and from him the opinion has been derived to other chemiſts; but of late a new doctrine was broached by M. Lavoiſier, who denies the exiſtence of phlogiſton altogether. Though none of theſe ſubſtances therefore are properly the objects of chemiſtry, yet as they have ſo much ingroſſed the attention of modern chemiſts, we ſhall here give an account of the moſt remarkable theories that have appeared concerning them. Of the Element of Fire

SECT. I. *Of the Element of Fire.*

THE opinions concerning the element of fire may be divided into two general claſſes; the one conſidering it as an effect, the other as a cauſe. The former is maintained by Lord Bacon, Mr Boyle, and Sir Iſaac Newton; whoſe reſpectable names for a long time gave ſuch a ſanction to this theory, that it was generally looked upon as an eſtabliſhed truth. Some learned men, however, among whom was the great Dr Boerhaave, always diſſented, and inſiſted that fire was a fluid univerſally diffuſed, and equally preſent in the frozen regions of Nova Zembla as in a glaſs-houſe furnace, only that in the latter its motion made it conſpicuous; and by ſetting it in motion in the coldeſt parts of the world, its previous exiſtence there would be equally demonſtrable as in the furnace above-mentioned. 28 Two general theories of heat.

Lord Bacon defines heat, which he uſes as a ſynonymous term with fire, to be an expanſive undulatory motion in the particles of a body, whereby they tend with ſome rapidity towards the circumference, and alſo a little upwards. Hence, if in any natural body you can excite a motion whereby it ſhall expand or dilate itſelf, and can repreſs and direct this motion upon itſelf in ſuch a manner that the motion ſhall not proceed uniformly, but obtain in ſome parts and be checked in others, you will generate heat or fire. 29 Lord Bacon's definition of heat.

The ſame opinion is ſupported by Mr Boyle in the following manner: "The production of heat diſcovers nothing, either in the agent or patient, but motion, and its natural effects. When a ſmith briſkly hammers a ſmall piece of iron, the metal thereby becomes exceedingly hot: yet there is nothing to make it ſo, except the motion of the hammer impreſſing a vehement and variouſly determined agitation on the ſmall parts of the iron; which, being a cold body before, grows hot by that ſuperinduced motion of its ſmall parts: firſt, in a more looſe acceptation of the word, with regard to ſome other bodies, in compariſon of which it was cold before; then ſenſibly hot, becauſe the motion in the parts of the iron is greater than that in the parts of our fingers; at the ſame time that the hammer and anvil, by which the percuſſion is communicated, may, on account of their magnitude, remain cold. It is not neceſſary, therefore, that a body ſhould itſelf be hot in order to communicate heat to another." 30 Mr Boyle's opinion.

The arguments made uſe of by Sir Iſaac Newton are not intended poſitively to eſtabliſh any kind of theory relating to fire, but are to be found in a conjecture, publiſhed at the end of his Treatiſe on Optics, concerning the nature of the ſun and ſtars. "Large bodies (he obſerves) preſerve their heat the longeſt, their parts heating one another; and why may not great, denſe, and fixed bodies, when heated beyond a certain degree, emit light ſo copiouſly, as, by the emiſſion and reaction of it, and the reflections and refractions within the pores, to grow continually hotter, till they arrive at ſuch a period of heat as is that of the ſun? Their 31 Sentiments of Sir Iſaac Newton.

parts

Of the Element of Fire.

parts may be further preſerved from fuming away, not only by their fixity, but by the vaſt weight and denſity of the atmoſphere incumbent on them, ſtrongly compreſſing them, and condenſing the vapours exhaled from them. Thus we ſee, that warm water, in an exhauſted receiver, ſhall boil as vehemently as the hotteſt water expoſed to the air; the weight of the incumbent atmoſphere in this latter caſe keeping down the vapours, and hindering the ebullition till it has received its utmoſt degree of heat. Thus alſo a mixture of tin and lead, put on a red hot iron *in vacuo*, emits a fume and flame; but the ſame mixture in the open air, by reaſon of the incumbent atmoſphere, does not emit the leaſt ſenſible flame." In conſequence of theſe experiments, Sir Iſaac conjectures, that there is no eſſential diſtinction betwixt fire and groſs bodies; but that they may be converted into one another. "Fire (he ſays) is a body heated ſo hot as to emit light copiouſly; for what (ſays he) is a red hot iron but fire?"

32 Fire now generally allowed to be an element *per ſe*.

The hypotheſes of theſe great men produced long and violent diſputes, which were never deciſively ſettled: The diſcoveries in electricity, however, furniſhed ſuch additional ſtrength to the followers of Dr Boerhaave, that fire is now believed to be an element and fluid diſtinct from all others, by at leaſt as many as eſpouſe the contrary ſyſtem; but the queſtion is not decided, Whether the fire itſelf is to be conſidered as the agent? or, Whether its action is to be derived from the principles of attraction and repulſion, the natural agents ſuppoſed to influence other material ſubſtances? This has produced two other ſyſtems of a kind of mixed nature, in which heat or fire is conſidered as a ſubſtance diſtinct from all others, but which acts in other bodies according to its *quantity*. Theſe ſyſtems have been promulgated by Dr Black of Edinburgh and Dr Irvine of Glaſgow. They differ from the opinions of Mr Boyle, Lord Bacon, and Sir Iſaac Newton, in ſuppoſing heat to be a fluid diſtinct from all other material ſubſtances; and they alſo differ from the hypotheſis of Dr Boerhaave, Lemery, and others, in ſuppoſing different terreſtrial ſubſtances to be hot according to the *quantity* of fluid contained, and not according to the force with which it moves in them.

33 Two other theories inſtituted.

34 In what they differ from the former.

35 General account of Dr Black's and Dr Irvine's theory.

Dr Black is of opinion that *heat*, which he ſeems to make ſynonymous with fire, exiſts in two different ſtates; in one of which it affects our ſenſes and the thermometer, in the other it does not. The former therefore he calls *ſenſible* heat, the latter *latent* heat. On theſe principles he gives the only ſatisfactory explanation of the phenomena of evaporation and fluidity that has yet appeared, as ſhall afterwards be more fully explained. At preſent we ſhall only obſerve, that, according to the theory of Dr Black, heat or fire itſelf ſeems to be the agent; but, according to that of Dr Irvine, as far as we can gather it from the treatiſes of Dr Crawford and others, the principles of attraction and repulſion are the agents by which heat, as well as other bodies, is influenced. Thus, on the principles of Dr Black, we ſay, that water is converted into vapour by a quantity of heat entering into it in a *latent* ſtate, and thereby rendering it ſpecifically lighter than the atmoſphere: according to the principles of Dr Irvine, we ſay, that water is converted into vapour by having its capacity for attracting heat from the atmoſphere increaſed. So that, according to the former, the abſorption of heat is the *cauſe*; according to the latter, the *effect*, of its converſion into vapour.

Of the Element of Fire.

36 Dr Irvine's theory explained by Dr Crawford.

Dr Crawford, in his Treatiſe on Heat, publiſhed in 1788, informs us, that *heat*, in the philoſophical ſenſe of the word, has been uſed to expreſs what is frequently called the *element of fire*, in the abſtract, without regard to the peculiar effects which it may produce in relation to other bodies. This, with Dr Irvine, he calls *abſolute* heat; and the external cauſe, as having a relation to the effects it produces, he calls *relative* heat. "From this view of the matter (ſays he), it appears, that *abſolute heat* expreſſes, in the abſtract, that *power* or *element* which, when it is preſent to a *certain* degree, excites in all animals the ſenſation of heat; and *relative* heat expreſſes the ſame power, conſidered as having a relation to the effects by which it is known and meaſured.

37 Abſolute heat defined.

38 Relative heat.

39 How divided.

"The effects by which heat is known and meaſured are three; and therefore relative heat may admit of three ſubdiviſions. 1. This principle is known by the peculiar ſenſations which it excites in animals. Conſidered as exciting thoſe ſenſations, it is called *ſenſible* heat. 2. It is known by the effect which it produces upon an inſtrument that has been employed to meaſure it, termed a *thermometer*. This is called the *temperature of heat in bodies*. 3. It has been found by experiment, that in bodies of different kinds the quantities of abſolute heat may be unequal, though the temperatures and weights be the ſame. When the principle of heat is conſidered relatively to the whole quantity of it contained in bodies of different kinds, but which have equal weights and temperatures, I ſhall term it *comparative heat*. If, for example, the temperatures and weights being the ſame, the whole quantity of heat in water be four times as great as that of antimony, the comparative heats of theſe ſubſtances are ſaid to be as four to one."

40 Comparative heat defined.

41 Experiments by which Dr Black was led to the diſcovery of latent heat.

In order to have a proper conception of what is meant by a difference in abſolute heat, when the temperatures are the ſame, it will be neceſſary to relate ſome experiments, by which Dr Black was firſt led to the diſcovery of latent heat. He obſerves, that when two equal maſſes of the ſame matter, heated to different degrees, are mixed together, the heat of the mixture ought to be an arithmetical mean betwixt the two extremes. This, however, only takes place on mixing hot and cold water together; but if inſtead of cold water we take ice, the caſe is remarkably different. Here the temperature of the mixture is much below the arithmetical mean, and a quantity of heat is apparently loſt. Now we know that the temperature of ice newly frozen is generally 32 degrees of Fahrenheit; ſuppoſing therefore the temperature of the water which diſſolves it to be 120°, the arithmetical mean is 71; but if the mixture indicates a temperature only of 60°, then we muſt ſuppoſe that the ice contained 11° of heat leſs than was indicated by the thermometer; and conſequently, that water at 32° contains 11° more of abſolute heat than ice at 32°.

42 A quantity of heat loſt in the melting of ice.

43 Great quantity of heat produced by the condenſation of vapour.

The ſame thing is made ſtill more evident from the condenſation of vapour. The fluid of water is not capable of ſuſtaining a great degree of heat; and 212° of Fahrenheit is the utmoſt it can be made to bear, without an extraordinary degree of preſſure, as in Pa-

pin's digeſter, or the admixture of ſaline ſubſtances: the temperature of the ſteam emitted by it therefore never can exceed 212°, except in the caſes juſt mentioned; and it is often capable of bearing a great degree of cold without being condenſed. When the condenſation takes place at laſt, however, a very conſiderable degree of heat is always produced; and Dr Black has ſhown, that, in the condenſation of ſteam by the refrigeratory of a common ſtill, as much heat is communicated to the water in the refrigeratory as would be ſufficient to make the water which comes over as hot as red hot-iron, were it all to exiſt in a ſenſible ſtate. His method of making the calculation is very eaſy. For, ſuppoſing the refrigeratory to contain 100 pounds of water, and that one pound has been diſtilled; if the water in the refrigeratory has received 10 degrees of heat, we know that the diſtilled pound has parted with 1000. If in paſſing through the worm of the refrigeratory, it has been reduced to the temperature of 50° of Fahrenheit, having been at 212° when it entered it, then it has loſt only 162° of ſenſible heat; all the reſt communicated to the water of the refrigeratory amounting to more than 800°, having been contained in a latent ſtate, and ſuch as could not then affect the thermometer. This experiment was tried by Mr Watt in a manner ſtill more ſtriking, by a diſtillation of water *in vacuo*. Thus the ſteam, freed from the preſſure of the atmoſphere, could not conceive ſuch a degree of ſenſible heat as in the common method of diſtilling. It came over therefore with a very gentle warmth, ſcarce more than what the hand could bear; nevertheleſs it had abſorbed as much heat as though the diſtillation had been performed in the common way; for the refrigeratory had 1000 degrees of heat communicated to it.

44 Dr Black's method of calculating it.

45 Mr Watt's experiment on the diſtillation of water *in vacuo*.

46 Difference of abſolute heat in different fluids.

47 Thinneſt fluids contain the greateſt quantity of heat.

48 Great difference betwixt the calculations of Drs Cleghorn and Crawford.

The difference of abſolute heat is likewiſe perceptible betwixt any two bodies of different denſity, water and mercury for inſtance: and in comparing theſe, it will always be found that the thinneſt fluids contain the greateſt quantity of abſolute heat; as water more than mercury, ſpirit of wine more than water, ether more than ſpirit of wine, and air more than any of them. Dr Black having brought equal bulks of mercury and water, the former to a temperature of 50 degrees higher than the latter, found that, on mixture, there was a gain of only 20 degrees above the original; but on reverſing the experiment, and heating the water 50 degrees above the mercury, there was a gain of 30 degrees on the whole. "Hence (ſays Dr Cleghorn in his theſis *de Igne*) it appears, that the quantity of heat in water is to that in mercury, when both are of equal temperatures, as 3 to 2." Dr Crawford, however, tells us, that "the ſame quantity of heat which raiſes a pound of water one degree, will raiſe a pound of mercury 28 degrees; whence it follows, that the comparative heat of water is to that of mercury as 28 to 1: and conſequently, the alterations which are produced in the temperatures of bodies by given quantities of abſolute heat, may properly be applied as a meaſure of their comparative heats; the alterations of temperature and the comparative heats being reciprocally proportional to one another.

49 Crawford's account of ſenſible heat.

"Senſible heat (continues Dr Crawford) depends partly on the ſtate of the temperature, and partly on that of the organ of feeling; and therefore if a variation be produced in the latter, the ſenſible heat will be different, though the temperature continue the ſame. Thus water at the temperature of 62° of Fahrenheit appears cold to a warm hand immerſed in it; but on the contrary, that fluid will appear warm if a hand be applied to it which has a lower degree of heat than 62°. For this reaſon, the thermometer is a much more accurate meaſure of heat than the ſenſes of animals. As long, however, as the organs remain unchanged, the ſenſible heat is in proportion to the temperature; and therefore thoſe terms have generally been conſidered as ſynonymous. On this ſubject Dr Reid obſerves, that until the ratio between one temperature and another be aſcertained by experiment and induction, we ought to conſider temperature as a meaſure which admits of degrees, but not of ratios; and conſequently ought not to conclude, that the temperature of one body is double or triple to that of another, unleſs the ratio of different temperatures were determined. Nor ought we to uſe the expreſſions of a *double* or *triple* temperature, theſe being expreſſions which convey no diſtinct meaning until the ratio of different temperatures be determined."

50 Dr Reid's obſervations concerning temperatures.

In making experiments on the comparative quantities of heat in different bodies, our author chooſes rather to uſe equal *weights* than equal *bulks* of the ſubſtances to be compared. Thus he found the comparative heat of water to be to that of mercury as 28 to 1 by weight, and 2 to 1 by bulk; which differs very conſiderably from the concluſion of Dr Black, who makes it only as 3 to 2, as has been already mentioned.

51 Difference betwixt the calculations of Drs Crawford and Black.

From the differences obſerved in the quantities of abſolute heat contained in different bodies, our author concluded, that "there muſt be certain eſſential differences in the nature of bodies; in conſequence of which, *ſome* have the power of collecting and retaining that element in greater quantity than *others*." Theſe different powers he calls the *capacities* for containing heat. Thus, if we find by experiment that a pound of water contains four times as much abſolute heat as diaphoretic antimony, when at the ſame temperature, the capacity of water for containing heat is ſaid to be to that of antimony as 4 to 1.

52 Capacities for containing heat explained.

"The temperature, the capacity for containing heat, and the abſolute heat contained, may be diſtinguiſhed from each other in the following manner:

53 How the capacity, temperature, and abſolute heat, are to be diſtinguiſhed.

"The capacity for containing heat, and the abſolute heat contained, are diſtinguiſhed as a force diſtinct from the ſubject upon which it operates. When we ſpeak of the capacity, we mean a power inherent in the heated body; when we ſpeak of the abſolute heat, we mean an unknown principle which is retained in the body by the operation of this power; and when we ſpeak of the temperature, we conſider the unknown principle as producing certain effects upon the thermometer.

"The capacity for containing heat may continue unchanged, while the abſolute heat is varied without end. If a pound of ice, for example, be ſuppoſed to retain its ſolid form, the quantity of its abſolute heat will be altered by every increaſe or diminution of its ſenſible heat: but as long as its form continues the ſame, its capacity for receiving heat is not affected by

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an alteration of temperature, and would remain unchanged though the body were wholly deprived of its heat."

54 Crawford's opinion concerning heat in the abſtract.

In the courſe of his work, Dr Crawford obſerves, that "he has not entered into the inquiry which has been ſo much agitated among the Engliſh, the French, and the German philoſophers, Whether heat be a *ſubſtance* or a *quality*? In ſome places indeed he has uſed expreſſions which ſeem to favour the former opinion; but his ſole motive for adopting theſe was, becauſe the language ſeemed to be more ſimple and natural, and more conſonant to the facts which had been eſtabliſhed by experiment. At the ſame time, he is perſuaded that it would be a very difficult matter to reconcile many of the phenomena with the ſuppoſition that heat is a *quality*. It is not eaſy to conceive, upon this hypotheſis, how heat can be abſorbed in the proceſſes of fuſion, evaporation, combuſtion; how the quantity of heat in the air can be diminiſhed, and that in the blood increaſed, by reſpiration, though no ſenſible heat or cold be produced.

"Whereas, if we adopt the opinion that heat is a diſtinct ſubſtance, or an element *ſui generis*, the phenomena will be found to admit of a ſimple and obvious interpretation.

55 Fire contained in bodies partly by its attraction to them, and partly the preſſure of the external fluid.

"Fire will be conſidered as a principle; which is diſtributed in various proportions throughout the different kingdoms of nature. The mode of its union with bodies will reſemble that particular ſpecies of union, wherein the elements are combined by the joint forces of preſſure and attraction. Of this kind is the combination of fixed air and water; for fixed air is retained in water partly by its attraction for that fluid, and partly by the preſſure of the external air; and if either of theſe forces be diminiſhed, a portion of the fixed air eſcapes. In like manner, it may be conceived that elementary fire is retained in bodies, partly by its attraction to theſe bodies, and partly by the action of the ſurrounding heat; and in that caſe a portion of it will be diſengaged, either by diminiſhing the attractive force, or by leſſening the temperature of the circumambient medium. If, however, fire be a ſubſtance which is ſubject to the laws of attraction, the mode of its union with bodies ſeems to be different from that which takes place in chemical combination: for, in chemical combination, the elements acquire new properties, and either wholly or in part loſe thoſe by which they were formerly characterized. But we have no ſufficient evidence for believing that fire, in conſequence of its union with bodies, does, in any inſtance, loſe its diſtinguiſhing properties."

56 Dr Berkenhout's opinion concerning the nature of heat.

Dr Berkenhout, in his Firſt Lines of the Theory and Practice of Philoſophical Chemiſtry, informs us, that "heat, or the *matter of heat*, is by Scheele and Bergman ſubſtituted for fire, which they believe to be the action of heat when increaſed to a certain degree. The firſt of theſe celebrated chemiſts believed this *matter of heat* to be a compound of phlogiſton and pure air. He was certainly miſtaken. It ſeems more philoſophical to conſider heat as an *effect*, of which fire is the ſole cauſe.

57 His diviſion of fire into fixed and volatile.

"Heat I conſider not as a diſtinct ſubſtance, but as an effect of fire, fixed or volatile; in both which ſtates fire ſeems to exiſt in all bodies, ſolid and fluid. Fixed fire I believe to be a conſtituent part of all bodies, and their ſpecific heat to depend on the quantity of fixed fire in each. This fixed, this latent fire, cannot be ſeparated from the other conſtituent parts of bodies but by their decompoſition: it then becomes volatile and incoercible. If this hypotheſis be true, fire exiſts, in all natural bodies that contain phlogiſton, in three different ſtates: 1. In that volatile ſtate in which it perpetually fluctuates between one body and another. 2. Combined with an acid, probably in the form of fixed inflammable air or phlogiſton. 3. Uncombined and fixed, as a conſtituent principle, determining the ſpecific heat of bodies. Of the Element of Fire.

58 Pure or volatile fire defined.

"Pure (or volatile) fire is diſtinguiſhed by the following properties. 1. It is eſſentially fluid, inviſible, and without weight. 2. It is the immediate cauſe of all fluidity. 3. It penetrates and pervades all bodies on the ſurface of the earth, and as far beneath the ſurface as hath hitherto been explored. Water hath never been found in a congealed ſtate in the deepeſt mines. 4. It has a conſtant tendency to diffuſe itſelf equally through all bodies, howſoever different in point of denſity. A marble ſlab, a plate of iron, a decanter of water, and a lady's muff, at the ſame diſtance from the fire, and other external circumſtances, being equal, poſſeſs an equal degree of heat, which is preciſely that of the atmoſphere in which they ſtand. 5. It is perpetually in motion from one body to another, and from different parts of the ſame body, becauſe external circumſtances are continually varying. 6. In fluctuating from one body to another, it produces a conſtant vibration of their conſtituent parts; for all bodies expand and contract in proportion to the quantity of fire they contain. 7. Accumulated beyond a certain quantity, it effects the diſſolution of bodies, by forcing their conſtituent parts beyond the ſphere of mutual attraction, called the *attraction of coheſion*, which is the cauſe of ſolidity. Hence the ſovereign agency of fire in chemical operations."

59 Dr Crawford's definition of fire.

Dr Crawford, beſides the opinions already quoted, tells us, that fire, in the vulgar acceptation of the word, expreſſes a certain degree of heat accompanied with light; and is particularly applied to that heat and light which are produced by the inflammation of combuſtible bodies. But as heat, when accumulated in a ſufficient quantity, is conſtantly accompanied with light; or, in other words, as fire is always produced by the increaſe of heat, philoſophers have generally conſidered theſe phenomena as proceeding from the ſame cauſe: and have therefore uſed the word *fire* to expreſs that unknown principle, which, when it is preſent to a certain degree, excites the ſenſation of heat alone; but, when accumulated to a greater degree, renders itſelf obvious both to the ſight and touch, or produces heat accompanied with light. In this ſenſe, the element of fire ſignifies the ſame thing with *abſolute heat*.

Having premiſed theſe general definitions and remarks, he gives the properties of heat in the following words:

60 Heat has a tendency to diffuſe itſelf equally over bodies.

"I. Heat has a conſtant tendency to diffuſe itſelf over all bodies till they are brought to the ſame temperature. Thus it is found by the thermometer, that if two bodies of different temperatures are mixed together, or placed contiguous, the heat paſſes from the one to the other till their temperatures become equal; and

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and that all inanimate bodies, when heated and placed in a cold medium, continually lose heat, till in process of time they are brought to the state of the surrounding medium.

"From this property of heat it follows, that the various classes of bodies throughout the earth, if they were not acted upon by external causes, would at length arrive at a common temperature when the heat would become quiescent; in like manner as the waters of the ocean, if not prevented by the winds and by the attractions of the sun and moon, would come to an equilibrium, and would remain in a state of rest. But as causes continually occur in nature to disturb the balance of heat as well as that of the waters of the ocean, those elements are kept in a constant fluctuation.

61 It is contained in considerable quantity in all bodies.

"II. Heat is contained in considerable quantities in all bodies when at the common temperature of the atmosphere.

"From the interesting experiments which were made on cold by Mr Wilson, we learn, that at Glasgow, in the winter of the year 1780, the thermometer on the

62 Great degree of cold at Glasgow,

surface of snow sunk 25 degrees below the beginning of Fahrenheit's scale.

63 In Siberia, and at Hudson's bay.

"We are told by Dr Pallas, that in the deserts of Siberia, during a very intense frost, the mercury was found congealed in thermometers exposed to the atmosphere, and a quantity of that fluid in an open bowl placed in a similar situation, at the same time became solid. The decisive experiments of Mr Hutchins at Hudson's Bay prove, that the freezing point of mercury is very nearly 40° below the *zero* (or 0°) of Fahrenheit. From which it follows, that at the time of Dr Pallas's observation, the atmosphere in Siberia must have been cooled to minus 40. By a paper lately transmitted to the Royal Society we are informed, that the spirit-of-wine thermometer in the open air at Hudsons Bay fell to — 42 in the winter of 1785; and from the same communication we learn, that by a mixture of snow and vitriolic acid, the heat was so much diminished, that the spirit of wine sunk to — 80, which is 112 below the freezing point of water.

64 Quantity of heat limited in all bodies.

"Hence it is manifest, that heat is contained in considerable quantities in all bodies when at the common temperature of the atmosphere. It is plain, however, that the quantity inherent in each individual body is limited. This, I think, must be admitted, whatever be the hypothesis which we adopt concerning the nature of heat; whether we conceive it to be a force or power belonging to bodies, or an elementary principle contained in them. For those who consider heat as an element, will not suppose that an unlimited quantity of it can be contained in a finite body; and if heat be considered as a force or power, the supposition that finite bodies are actuated by forces or powers which are infinite is equally inadmissible.

65 Bodies universally expanded by heat.

"To place this in another light, we know that bodies are universally expanded by heat, excepting in a very few instances, which do not afford a just objection to the general fact; because, in those instances, by the action of heat a fluid is extricated that previously separated the particles from each other. Since, therefore, heat is found to expand bodies in the temperatures which fall within the reach of our observation, we may conclude that the same thing takes place in all temperatures."

Our author, by a set of very accurate and laborious experiments, determines that the expansions in mercury and some other fluids are proportionable to the quantities of heat applied; "from which (says he) it is manifest, that the quantities of heat in bodies are limited, because an infinite heat would produce an infinite expansion.

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66 Expansion of mercury, &c. proportionable to the degrees of heat.

"It is manifest, that the number of degrees of sensible heat, as measured by the thermometer, and estimated from the beginning of the scale, must be the same in all bodies which have a common temperature; for by the first general fact it is proved, that heat has a constant tendency to diffuse itself uniformly over bodies till their temperatures become equal. From which it may be inferred, that if a quantity of heat were added to bodies absolutely cold, the same uniform diffusion would take place; and that if a thermometer, altogether deprived of its heat, were applied to such bodies, it would be equally expanded by them, the whole of the sensible heat which they had acquired being indicated by that expansion.

67 Homogeneous bodies of the same temperature, contain quantities of heat proportionable to those of their matter.

"III. If the parts of the same homogeneous substance have a common temperature, the quantity of absolute heat will be proportional to the bulk or quantity of matter. Thus the quantity of absolute heat in two pounds of water is double that which is contained in one pound when at the same temperature.

"IV. The dilatations and contractions of the fluid in the mercurial thermometer are nearly proportional to the quantities of absolute heat which are communicated to the same homogeneous bodies, or separated from them, as long as they retain the same form. Thus the quantity of heat required to raise a body four degrees in temperature by the mercurial thermometer, is nearly double that which is required to raise it two degrees, four times that required to raise it one degree, and so in proportion."

Thus we find, that Dr Black, Dr Irvine, Dr Crawford, and Dr Berkenhout, agree in speaking of fire or heat as a fluid substance distinct from all other bodies.

68 Mr Kirwan's opinion concerning fire.

Mr Kirwan, in his Treatise of Phlogiston, agrees in the same opinion. "Some (says he) have thought, that I should have included the matter of heat, or elementary fire, in the definition of inflammable air; but as fire is contained in all corporeal substances, to mention it is perfectly needless, except where bodies differ from each other in the quantity of it they contain." On the other hand, Mr Cavendish, Phil. Trans. lxxiv. p. 141. tells us, that "he thinks it more likely that there is no such thing as elementary heat:" but, as he gives no reason for this opinion, it seems probable that the greater part of philosophers either positively believe that heat is an elementary fluid distinct from all others, or find themselves obliged to adopt a language which necessarily implies it. The only difficulty which now remains therefore is, to affix a proper idea to the phrase *quantity of heat*, which we find universally made use of, without any thing to determine our opinions concerning it.

69 Mr Cavendish's opinion that it is not a distinct substance.

70 Difficulty in defining the phrase *quantity of heat.*

71 This phrase cannot be used in the common acceptation of the word with regard to fire.

That we cannot speak of a *quantity* of fire or heat in the same sense as we speak of a quantity of water or any other fluid is evident, because we can take away the quantity of water which any substance contains, but cannot do so with heat. Nay, in many cases we are sure, that a substance very cold to the touch does

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yet contain a very conſiderable quantity of heat. The vapour of water, for inſtance, may be made much colder than the uſual temperature of the atmoſphere without being condenſed, when at the ſame time we are certain that it contains a great quantity of heat; and the ſame may be ſaid of water, which, in the act of freezing, throws out a great quantity of heat without becoming colder; and in the act of melting abſorbs as much without becoming warmer. It is not therefore by the mere preſence or abſence of this fluid that we can determine the real quantity of this fluid; nor does it appear that the word *quantity* can be at all accurately applied to the element itſelf, becauſe we have no method of meaſuring it.

72 Dr Cleghorn's opinion.

Dr Cleghorn, in his inaugural diſſertation *De Igne*, throws ſome light on this ſubject, by obſerving, that "the thermometer ſhows only the quantity of heat *going out* of a body, not that which is really contained in it:" and he alſo inſiſts, that "we can neither aſſent to the opinion of Dr Boerhaave, who ſuppoſed that heat was diſtributed among bodies in proportion to their bulks; nor to the hypotheſes of others, who imagined that they were heated in proportion to their denſities." But in what proportion, then, are they heated; or how are we to meaſure the *quantity* which they really contain, ſeeing the thermometer informs us only of what they part with?

73 The latent heat of bodies cannot be meaſured.

As this point is by no means aſcertained, we cannot form a direct idea concerning the abſolute quantity of heat contained in any body; and therefore when we ſpeak of quantities of this fluid, we muſt in fact, if we mean any thing, think of the ſenſible quantity flowing out of them; and though we ſhould ſuppoſe the whole of this ſenſible heat to be removed, it would ſtill be impoſſible for us to know how much remained in a latent ſtate, and could not be diſſipated. This difficulty will ſtill appear the greater, if with Dr Cleghorn and others we ſuppoſe the fluid of heat to be ſubject to the laws of attraction and repulſion. This gentleman ſuppoſes, that the particles of heat (like the particles of electric fluid according to the Franklinian hypotheſis) are repulſive of one another, but attracted by all other ſubſtances. "If any body (ſays he), heated beyond the common temperature of the air, is expoſed to it, the heat flows out from it into the atmoſphere, and diffuſes itſelf equally all around till the air becomes of the ſame temperature with itſelf. The ſame happens to bodies ſuſpended *in vacuo*. Hence it is juſtly concluded, that there exiſts between the particles of heat a repulſive power, by which they mutually recede from each other. Notwithſtanding this repulſive power, however, the quantities of heat contained in different ſubſtances, even of the ſame temperature, are found to be altogether different; and from Dr Black's experiments it now appears, that the quantity of heat is ſcarce ever the ſame in any two different bodies: and hence we may conclude, that terreſtrial bodies have a power of attracting heat, and that this power is different in different ſubſtances.—From theſe principles it evidently follows, that heat is diſtributed among bodies directly in proportion to their attracting powers, and inverſely according to the repulſive power between the particles of heat themſelves. Such is the diſtribution of heat among bodies in the neighbourhood of each other, and which is called the *equilibrium of heat*, becauſe the thermometer ſhows no difference of temperature among them. For ſeeing the heat is diſtributed according to the attracting power of each, the thermometer having alſo a proper attraction of its own, can ſhow no difference in the attracting power of each; for which reaſon all bodies in the neighbourhood of each other are ſoon reduced to the ſame temperature."

74 Dr Cleghorn's hypotheſis concerning fire.

75 Equilibrium of heat defined.

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76 The quantity of heat cannot be determined by this hypotheſis.

If we aſſent to Dr Cleghorn's hypotheſis, the quantity of heat contained in any ſubſtance depends, in the firſt place, on the attracting power of that ſubſtance, which is altogether unknown; and, in the ſecond place, on the repulſive powers of the particles of heat themſelves, which are equally unknown. To determine the *quantity*, therefore, muſt be impoſſible. Neither will the mixture of two different fluids, as in Dr Black's experiments, aſſiſt us in the leaſt; for though water, heated more than mercury, communicates a greater heat to that fluid than the latter does to water; this only ſhows that water more readily parts with ſome part of the heat it contains than mercury does, but has not the leaſt tendency to diſcover the quantity contained in either.

Dr Crawford, as we have already ſeen, calls the *degree*, or, if we may vary the phraſe, the *quantity of power* or *element (fluid*, if we may ſubſtitute a ſynonymous word) exiſting or preſent in any body, its *abſolute heat*; and lays down a rule for determining the proportional quantities of heat in different bodies. "It will appear (ſays he) from the experiments afterwards recited, that if a pound of water and a pound of diaphoretic antimony have a common temperature, the quantity of abſolute heat contained in the former is nearly four times that contained in the latter."—The manner in which he illuſtrates this is as follows.

77 Dr Crawford's method of determining the proportional quantities of heat.

"If four pounds of diaphoretic antimony at 20 be mixed with one pound of ice at 32, the temperature will be nearly 26: the ice will be cooled ſix degrees, and the antimony heated ſix. If we reverſe the experiment, the effect will be the ſame. That is, if we take ſix degrees of heat from four pounds of antimony, and add it to a pound of ice, the latter will be heated ſix degrees. The ſame quantity of heat, therefore, which raiſes a pound of ice ſix degrees, will raiſe four pounds of antimony ſix degrees.

"If this experiment be made at different temperatures, we ſhall have a ſimilar reſult. If, for example, the antimony at 15, or at any given degree below the freezing point, be mixed with the ice at 32, the heat of the mixture will be the arithmetical mean between that of the warmer and coldar ſubſtance. And ſince the capacities of bodies are permanent as long as they retain the ſame form, we infer, that the reſult would be the ſame if the antimony were deprived of all its heat, and were mixed with the ice at 32. But it is evident, that in this caſe the ice would communicate to the antimony the half of its abſolute heat. For if 200 below froſt be conceived to be the point of total privation, the antimony will be wholly deprived of its heat when cooled to 200 degrees below 32, and the heat contained in the ice when at 32 will be 200 degrees. If we now ſuppoſe them to be mixed together, the temperature of the mixture will be half the exceſs of the hotter above the colder, or the ice will

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be cooled 100 degrees and the antimony heated 100. The one half of the heat, therefore, which was contained in the ice previous to the mixture will be communicated to the antimony; from which it is manifeſt, that after the mixture the ice and antimony muſt contain equal quantities of abſolute heat.

"To place this in another light, it has been proved, that the ſame quantity of heat which raiſes a pound of ice ſix degrees will raiſe four pounds of antimony ſix degrees. And as the capacities of bodies, while they retain the ſame form, are not altered by a change of temperature; it follows, that the ſame quantity of heat which raiſes the ice 200 degrees, or any given number of degrees, will raiſe the antimony an equal number of degrees.

"A pound of ice, therefore, and four pounds of antimony, when at the ſame temperature, contain equal quantities of abſolute heat. But it appears from the third general fact (n° 67.), that four pounds of antimony contain four times as much abſolute heat as one pound of antimony; and hence the quantity of abſolute heat in a pound of ice is to that in a pound of antimony as four to one."

78 His method inſufficient.

From this quotation it is evident, that, notwithſtanding all the diſtinctions which Dr Crawford has laid down betwixt abſolute heat and temperature, it is only the *quantity* of the latter that can be meaſured; and all that we can ſay concerning the matter is, that when certain bodies are mixed together, ſome of them part with a greater quantity of heat than others; but how much they *contain* muſt remain for ever unknown, unleſs we can fall on ſome method of meaſuring the quantity of heat as we do that of any other fluid.

79 Nicholſon's account of the theories of heat.

Mr Nicolſon, who has collected the principal opinions on the ſubject of heat, ſeems undetermined whether to believe the doctrine of Boyle or of Boerhaave on the ſubject. "There are two opinions (ſays he) concerning heat. According to one opinion, heat conſiſts in a vibratory motion of the parts of bodies among each other, whoſe greater or leſs intenſity occaſions the increaſe or diminution of temperature. According to the other opinion, heat is a ſubtile fluid that eaſily pervades the pores of all bodies, cauſing them to expand by means of its elaſticity or otherwiſe. Each of theſe opinions is attended with its peculiar difficulties. The phenomena of heat may be accounted for by either of them, provided certain ſuppoſitions be allowed to each reſpectively; but the want of proof of the truth of ſuch ſuppoſitions renders it very difficult, if not impoſſible, to decide as yet whether heat conſiſts merely in motion or in ſome peculiar matter. The word *quantity*, applied to heat, will therefore denote either motion or matter, according to the opinion made uſe of, and may be uſed indefinitely without determining which.

80 Advantages of the doctrine that heat is cauſed by vibration.

"The chief advantage which the opinion that heat is cauſed by mere vibration poſſeſſes, is its great ſimplicity. It is highly probable, that all heated bodies have an inteſtine motion, or vibration of their parts; and it is certain that percuſſion, friction, and other methods of agitating the minute parts of bodies, will likewiſe increaſe their temperature. Why, then, it is demanded, ſhould we multiply cauſes, by ſuppoſing the exiſtence of an unknown fluid, when the mere vibration of parts which is known to obtain may be applied to explain the phenomena?"

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To this the reply is obvious, that the vibration of parts is an *effect*; for matter will not begin to move of itſelf: and if it is an effect, we muſt ſuppoſe a cauſe for it; which, though we ſhould not call it a fluid, would be equally unknown and inexplicable with that whoſe exiſtence is aſſerted by thoſe who maintain that fire is a fluid *per ſe*. Dr Cleghorn, however, in the diſſertation already quoted, aſſerts, that "heat is occaſioned by a certain fluid, and not by motion alone, as ſome eminent writers have imagined: becauſe, 1. Thoſe who have adopted the hypotheſis of motion could never even prove the exiſtence of that motion for which they contended; and though it ſhould be granted, the phenomena could not be explained by it. 2. If heat depended on motion, it would inſtantaneouſly paſs through an elaſtic body; but we ſee that heat paſſes through bodies ſlowly like a fluid. 3. If heat depended on vibration, it ought to be communicated from a given vibration in proportion to the quantity of matter; which is found not to hold true in fact. On the other hand, there are numberleſs arguments in favour of the opinion that heat proceeds from elementary fire. 1. Mr Locke hath obſerved, that when we perceive a number of qualities always exiſting together, we may gather from thence that there really is ſome ſubſtance which produces theſe qualities. 2. The hypotheſis of elementary fire is ſimple and agreeable to the phenomena. 3. From ſome experiments made by Sir Iſaac Newton, it appears, that bodies acquire heat and cold *in vacuo*, until they become of the ſame temperature with the atmoſphere; ſo that heat exiſts in the abſence of all other matter, and is therefore a ſubſtance by itſelf."

81 Anſwer to Mr Nicholſon's argument.

82 Dr Cleghorn's proof that heat is occaſioned by a fluid.

83 Difficulties concerning the nature and properties of fire.

But though theſe and other arguments ſeem clearly to eſtabliſh the point that fire or heat is a diſtinct fluid, we are ſtill involved in very great difficulties concerning its nature and properties. If it be ſuppoſed a fluid, it is impoſſible to aſſign any limits to its extent; and we muſt of neceſſity likewiſe ſuppoſe that it pervades the whole creation, and conſequently conſtitutes an abſolute plenum, contrary to a fundamental principle of the received ſyſtem of natural philoſophy. But if this is the caſe, it is vain to talk of its being abſorbed, accumulated, collected, or attracted by different bodies, ſince it is already preſent in all points of ſpace; and we can conceive of terreſtrial bodies no otherwiſe than as ſponges thrown into the ocean, each of which will be as full of fluid as it can hold. The different capacities will then be ſimilar to the differences between bits of wood, ſponge, porous ſtones, &c. for containing water; all of which depend entirely on the ſtructure of the bodies themſelves, and which, unleſs we could ſeparate the water by preſſure, or by evaporation, would be for ever unknown. Suppoſing it were impoſſible to collect this water in the manner we ſpeak of, we could only judge of the quantity they contained by the degree to which they ſwelled by being immerſed in it. It is eaſy to ſee, however, that ſuch a method of judging would be very inadequate to the purpoſe, as ſubſtances might contain internal cavities or pores in which water could lodge without augmenting the external bulk. This would ſuggeſt another method of judging of the quantity, namely, the ſpecific gra-

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vity; and we might reasonably suppose, that substances of the greatest specific gravity would contain the smallest quantity of water, though still we could by no means determine what quantity they did contain, unless we could lay hold of the element itself.

This seems to be very much the case with elementary fire, if we suppose it to be a fluid *per se*. We judge of its presence by the degree of expansion which one heated body communicates to another; but this is only similar to the calculation of the quantity of moisture a sponge or any other body contains, by what it communicates to wood when it comes into contact with it; which never could be supposed to carry the least pretensions to accuracy, though we should ascertain it with all imaginable exactness. It is likewise probable that the most dense bodies contain the smallest quantity of fire, as they generally communicate less when heated to an equal temperature than those which are more rare, though we are far from having any perfect knowledge in this respect.

84 Difficulty arising from the supposition that heat diffuses itself equably.

But the greatest difficulty of all will be, on the supposition that heat is a fluid, and an omnipresent one (which it must be, or there would be some places where bodies could not be heated), to answer the question, Why are not all bodies of an equal temperature, excepting only the differences arising from their specific densities, which render some capable of containing a greater quantity than others?—The difficulty will not be lessened, though the omnipresence of the fluid should be given up, if we suppose, as is generally done, that heat has a tendency to diffuse itself equably every way. If it has this tendency, what hinders it from doing so? Why doth not the heat from the burning regions of the torrid zone diffuse itself equally all over the globe, and reduce the earth to one common temperature? This indeed might require time; but the experience of all ages has shown that there is not the least advance towards an equality of temperature. The middle regions of the earth continue as hot, and the polar ones as cold, as we have any reason to believe they were at the creation of the world, or as we have any reason to believe they will be while the world remains. This indeed is one of the many instances of the impropriety of establishing general laws from the trifling experiments we are capable of making, and which hold good only on the narrow scales on which we can make them, but are utterly insufficient to solve the phenomena of the great system of nature, and which can be solved only by observing other phenomena of the same system undisturbed by any manoeuvres of our own.

85 Another from the seeming disappearance of the heat.

Again, supposing the objection already made could be got over, and satisfactory reasons should be given why an equilibrium of temperature in the earth and its atmosphere should never be obtained, it will by no means be easy to tell what becomes of the heat which is communicated to the earth at certain times of the year. This difficulty, or something similar, Dr Crawford seems to have had in view when treating of the effects of the evolution and absorption of heat. Thus, says he, "the Deity has guarded against sudden vicissitudes of heat and cold upon the surface of the earth.

86 Dr Crawford's solution.

"For if heat were not evolved by the process of congelation, all the waters which were exposed to the influence of the external air, when its temperature was reduced below 32°, would speedily become solid; and, at the moment of congelation, the progress of cooling would be as rapid as it was before the air had arrived at its freezing point. Element of Fire.

"This is manifest from what was formerly observed respecting the congelation of different fluids. It was shown, that if the velocities of the separation of heat were equal, the times of the congelation would be in proportion to the quantities of heat which the fluids gave off from an internal source in the freezing process. Whence it follows, that if no heat were evolved, the congelation would be instantaneous.

"In the present state of things, as soon as the atmosphere is cooled below 32°, the waters begin to freeze, and at the same time to evolve heat; in consequence of which, whatever may be the degree of cold in the external air, the freezing mass remains at 32°, until the whole is congealed; and as the quantity of heat extricated in the freezing of water is considerable, the progress of congelation in large masses is very slow.—That the absorption and extrication of heat in the melting and freezing of bodies has a tendency to retard the progress of these processes, is remarked by Mr Wilkie in his Essay on Latent Heat.—The same doctrine is likewise taught by Dr Black in his lectures.

87 Severity of the cold in the northern regions mitigated by the production of ice.

"In the northern and southern regions, therefore, upon the approach of winter, a quantity of elementary fire is extricated from the waters, proportional to the degree of cold that prevails in the atmosphere. Thus the severity of the frost is mitigated, and its progress retarded; and it would seem that, during this retardation of the cooling process, the various tribes of animals and vegetables which inhabit the circumpolar regions gradually acquire power of resisting its influence.

88 Inundations prevented by the slowness with which congealed water melts.

"On the contrary, if, in the melting of ice, a quantity of heat were not absorbed, and rendered insensible, that substance, when it was exposed to a medium warmer than 32°, would speedily become fluid, and the process of heating would be as rapid as if no alteration in its form had taken place. If things were thus constituted, the vast masses of ice and snow which are collected in the frigid zones would, upon the approach of summer, suddenly dissolve, and great inundations would annually overflow the regions near to the poles.

"But by the operation of the law of the absorption of heat when the ice and snow upon the return of spring have arrived at 32°, they begin to melt, and at the same time to imbibe heat: during this process, a large quantity of elementary fire becomes insensible; in consequence of which the earth is slowly heated, and those gradual changes are produced which are essential to the preservation of the animal and vegetable kingdoms.

89 Equal distribution of heat promoted by its absorption and evolution.

"We may remark, in the last place, that this law not only resists sudden changes of temperature, but that it likewise contributes to a more equal distribution of the principle of heat throughout the various parts of the earth, in different seasons and climates. Thus the diurnal heats are moderated by the evaporation of the waters on the earth's surface, a portion of the fire derived from the sun being absorbed and extinguished by the vapours at the moment of their ascent. On the approach of night the vapours are again condensed, and falling in the form of dew, communicate

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to the air and to the earth the fire which they had imbibed during the day.

"It was before ſhown, that, in the regions near to the poles, when the vernal and ſummer heats prevail, proviſion is made for tempering the ſeverity of the winter cold, a quantity of elementary fire, upon the diſſolution of the ice and ſnow, being abſorbed by the waters, and depoſited, as it were, in a great magazine for the purpoſe of mitigating the intenſity of the cold when the froſt returns.

90 Heat of the torrid zone thus mitigated.

"From the experiments of Hales, Halley, and Watſon, it appears, that vaſt quantities of water are continually converted into vapour by the action of the ſolar rays upon the portion of the earth's ſurface which is expoſed to the light; and by the celebrated diſcovery of Dr Black, it is proved, that, in the proceſs of evaporation, much elementary fire is abſorbed. It is manifeſt, that this cauſe will have a powerful influence in mitigating the intenſity of the heat in the torrid zone, and in promoting a more equal diffuſion of it through the earth. For a conſiderable portion of the heat, which is excited by the action of the ſolar rays upon the earth's ſurface within the tropics, is abſorbed by the aqueous vapours, which being collected in the form of clouds, are ſpread like a canopy over the horizon, to defend the ſubjacent regions from the direct rays of the ſun. A great quantity of elementary fire is thus rendered inſenſible in the torrid zone, and is carried by the diſperſion of the vapours to the north and to the ſouth, where it is gradually communicated to the earth when the vapours are condenſed."

91 This ſolution totally inſufficient to remove the difficulty.

That all this takes place, as the Doctor has advanced, cannot be denied; but, by allowing it, the difficulty is not removed in the ſmalleſt degree, as will appear from a due conſideration of the phenomena which he himſelf has mentioned.—He owns that the ſun communicates fire to the earth: the queſtion is, What becomes of it, ſeeing the emiſſion is continual? In ſummer, the air, the earth, and the water, are heated to a certain degree. On the ſun's declining ſouthward, the air firſt loſes its heat. Whither does it go? It does not aſcend into the higher regions of the atmoſphere, for theſe are conſtantly found colder than the parts below. It does not deſcend to the earth and water; for theſe give out the quantity they had abſorbed, as Dr Crawford obſerves. Neither does it go laterally to the ſouthern regions; for they are conſtantly very hot, and ought to impart their heat to thoſe farther north, inſtead of receiving any from them. How comes it then, that the atmoſphere ſeems perpetually to receive heat without ever being ſatiated? or if the heat cannot be found going off either upwards, downwards, or ſideways, how are we to account for its diſappearance?

92 Heat moſt probably the action of an omniprefent fluid.

This queſtion ſeems to be altogether unanſwerable on the ſuppoſition that heat is occaſioned by the mere preſence of a fluid; but if we ſuppoſe it to be only a particular mode of action of an omniprefent fluid, the whole difficulty vaniſhes at once. On this ſuppoſition indeed the queſtion will naturally ariſe, Whence does this motion proceed, or by what is its action in general determined? Dr Berkenhout, in enumerating the properties of matter, exempts fire from two of thoſe uſually aſcribed to other material ſubſtances, viz. gravitation and the *vis inertiæ*. "According to the philoſophers (ſays he), matter cannot move without being either impelled or attracted. I doubt much whether this be true of fire, and whether, when uncombined, motion be not one of its eſſential properties.—Gravitation ſeems alſo to be no property of fire, which moves with equal facility in all directions, and may be accumulated in hard bodies to any degree without increaſing their weight. Fire, being the cauſe of volatility, ſeems rather to be in conſtant counteraction to gravity."

93 Fire ſeems deſtitute of gravity and *vis inertiæ*.

But however eſſential we may ſuppoſe the motion of fire to be to it, there cannot be any ſelf-exiſtent mobility in its parts, otherwiſe it would ſoon be diffuſed equally throughout the univerſe, and the temperature of the whole reduced to an equilibrium. According to the preſent conſtitution of nature, we ſee that the diſtribution of heat is principally owing to the ſun; and what we call its *quantity*, depends on the poſition of the ſun with regard to terreſtrial objects and the length of time they are expoſed to his rays. Heat is not produced while the rays have a direct paſſage; and therefore fluids through which they paſs eaſily, as air, are not heated by the rays of the ſun. But when the rays are impeded in their courſe, and reflected in conſiderable quantity, a degree of heat takes place, which is always greater or leſs in proportion to the intenſity of the rays.—In the reflecting ſubſtance, the heat will be comparatively greater in proportion to the quantity of rays which are abſorbed or ſtopped in their courſe by it; but in any ſubſtance interpoſed betwixt the ſun and the reflecting body, the heat is proportionable to the quantity of rays reflected.—Now it is plain, that when the particles of light fall upon any opaque ſubſtance, and enter its pores, which by their extreme ſubtilty they are well eſculated to do, they muſt make an attempt to paſs directly through it in their natural courſe; but as this cannot be done, they will puſh laterally, and in all directions, in conſequence of being perpetually urged by the impulſe of the light coming from the ſun: and thus an action will be propagated in all directions as radii from a centre towards a circumference, which when it takes place in that ſubtile fluid always produces what we call *heat*.

94 Proofs of the identity of fire, light, and electricity.

In contemplating the ſyſtem of nature, we perceive three kinds of fluids of extreme ſubtilty, and very much reſembling one another, viz. fire, light, and electricity. That it ſhould be agreeable to vulgar conceptions to ſuppoſe theſe all to be ultimately the ſame, is not ſurpriſing; and on examining the evidence of their identity, it will certainly be found exceedingly ſtrong. They all agree in the property of exciting the ſenſation of heat in certain circumſtances, and in not doing ſo in others. Fire, we know, in the common acceptation of the word, always does ſo; but when it aſſumes the latent and inviſible ſtate, as in the formation of vapour, it lays aſide this ſeemingly eſſential property, and the vapour is cold to the touch.—Light, when collected into a focus by a burning-glaſs, i. e. when its rays converge towards a centre, and diverge or attempt to diverge from one, produces heat alſo: and ſo does the electric fluid; for it has been found that the aura converging from a very large conductor to the point of a needle, is capable of ſetting on fire a ſmall cartridge of gunpowder, or a quantity of tinder, ſurrounding it *. There ſeems alſo to be a connection betwixt

* See Electricity.

fire

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fire and electricity in another way; for in proportion as heat is diminiſhed, or the bodies are cooled, electricity ſucceeds in its place. Thus all electric bodies by heat become conductors of electricity, and cannot be excited or made to ſhow any ſigns of containing that fluid; but as ſoon as the heat is removed, their electric property returns. Water is naturally a conducting ſubſtance: by being frozen its conducting power is leſſened, which ſhows an approach to electricity; and, by being cooled down to 20° below 0 of Fahrenheit, the ice actually becomes electric, and will emit ſparks by friction like glaſs*. The atmoſphere is a natural electric: but by a certain degree of heat it loſes this property, and becomes a conductor; nor is there any doubt that its electric properties are increaſed in proportion to the degree of cold imparted to it. In the winter time, therefore, we muſt conſider the frozen ſurface of the earth, the water, and the atmoſphere of the polar regions, as forming one electrical machine of enormous magnitude: for the natural cold of theſe countries is often ſufficient to cool the water to more than 20° below 0, and conſequently to render it an electric. That this is really the caſe, appears from the exceſſively bright aurora borealis and other electric appearances, far exceeding any thing obſerved in this country. In the ſummer time, however, no ſuch appearances are to be ſeen, nor any thing remarkable except an exceſſive heat from the long continuance of the ſun above the horizon. This quantity of heat then being ſucceeded by a proportionable quantity of electricity in winter, it is impoſſible to avoid concluding that the heat in ſummer becomes electric fluid in winter, which, going off through the celeſtial expanſe, returns again to the grand ſource of light and heat from which it originally came; thus making room for the ſucceeding quantities which are to enliven the earth during the following ſummer.

97 Connection between fire or heat and electricity.

* See *Electricity*.

98 Exceſſive electricity of the polar regions in winter.

99 Heat in ſummer becomes electric fluid in winter.

Thus the diſappearance of heat in winter, and of electricity in ſummer, in theſe countries, will be very naturally and eaſily accounted for. It is true, that the phenomena of thunder and lightning ſhow the exiſtence of this fluid in vaſt quantities during the ſummer ſeaſon: but theſe phenomena are only partial, and though formidable to us, are trifling in compariſon with the vaſt quantities of electric matter diſcharged by the continual flaſhing of the aurora borealis, not to mention the fire balls and meteors called *falling ſtars*, which are very often to be ſeen in the northern countries. In the ſummer-time, the air which is an electric, heated by the rays of the ſun, is excited or made to part with the fluid to the vapours contained in it; and it is the unequal or oppoſite electricity of the clouds to one another, or to the earth, which produces the lightning. But in winter, when the air, earth, and vapours, all become electric, they cannot diſcharge ſparks from one to another as before; but the whole, as one connected and vaſt electriſied apparatus, diſcharges the matter almoſt in a continued ſtream for many months.

100 Why thunder and lightning take place in ſummer and not in winter.

101 Heat, light, cold, and electricity, the effects of one univerſal fluid.

From a conſideration of theſe and other phenomena of nature, as well as of the beſt experiments which have hitherto been made, we muſt conſider fire in the abſtract as an omnipreſent fluid, of ſuch ſubtilty as to pervade all terreſtrial ſubſtances. When by any means it is made to diverge every way as from a centre, there it operates as heat; expands, rarefies, or burns, according to the intenſity of its action. Proceeding in ſtraight and parallel lines, or ſuch as diverge but little, it acts as light, and ſhows none of that power diſcoverable in the former caſe, though this is eaſily diſcoverable by making it converge into a focus. In a quieſcent ſtate, or where the motion is but little, it preſſes on the ſurfaces of bodies, contracts and diminiſhes them every way in bulk, forces out the expanding fluid within their pores, and then acts as cold. In this caſe alſo, being obliged to ſuſtain the vehement action of that part of the fluid which is in motion, it flies with violence to every place where the preſſure is leſſened, and produces all the phenomena of ELECTRICITY.

Nature of Heat

§ 1. *Of the Nature of Heat.*

102 Particular ſolution of the phenomena of heat.

The manner in which the phenomena of heat may be ſolved and its nature, underſtood, will appear from the following propoſitions.

1. It is in all caſes obſerved, that when light proceeds in conſiderable quantity from a point, diverging as the radii of a circle from its centre, there a conſiderable degree of heat is found to exiſt, if an opaque body, having no great reflective power, is brought near that point.

2. This action of the light, therefore, may be accounted the ultimate cauſe of heat, without having recourſe to any farther ſuppoſitions; becauſe nothing elſe beſides this action is evident to our ſenſes.

3. If the point from which the rays are emitted is placed in a tranſparent medium, ſuch as air or water, that medium, without the preſence of an opaque body, will not be heated.

4. Another cauſe of heat, therefore, is the reſiſtance of the parts of that body on which the light falls, to the action mentioned in Prop. 1. Where this reſiſtance is weak, as in the caſes juſt mentioned, the heat is either nothing, or very little.

5. If a body capable of reflecting light very copiouſly is brought near the lucid point, it will not be heated *.

* See the article *Burning-Glaſs*.

6. A penetration of the light, therefore, into the ſubſtance of the body, and likewiſe a conſiderable degree of reſiſtance on the part of that body to the action of the light, are the requiſites to produce heat.

7. Thoſe bodies ought to conceive the greateſt degrees of heat into whoſe ſubſtance the light can beſt penetrate, *i. e.* which have the leaſt reflective power, and which moſt ſtrongly reſiſt its action; which is evidently the caſe with black and ſolid ſubſtances.

8. By heat all bodies are expanded in their dimenſions every way, and that in proportion to their bulk and the quantity of heat communicated to them.

9. This expanſion takes place not only by an addition of *ſenſible* heat, but likewiſe of that which is *latent*. Of this laſt we have a remarkable inſtance in the caſe of ſnow mixed with ſpirit of nitre. The ſpirit of nitre contains a certain quantity of latent heat, which cannot be ſeparated from it without effecting a change on the ſpirit itſelf; ſo that, if deprived of this heat, it would no longer be ſpirit of nitre. Beſides this, it contains a quantity of ſenſible heat, of a great part of which it may be deprived, and yet retain its characteriſtic properties as nitrous acid. When it is poured upon ſnow, the latter is immediately melted by the action of the latent heat in the acid. The ſnow cannot

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be melted or converted into water, without imbibing a quantity of latent heat, which it receives immediately from the acid which melts it. But the acid cannot part with the heat without decompoſition; to prevent which, its ſenſible heat occupies the place of that which has entered the ſnow and liquefied it. The mixture then becomes exceedingly cold, and the heat forces into it from all the bodies in the neighbourhood; ſo that, by the time it has recovered that quantity of ſenſible heat which was loſt, or arrived at the temperature of the atmoſphere around it, it will contain a conſiderably larger quantity of heat than it originally did, and is therefore obſerved to be expanded in bulk. Another inſtance of this expanſive power of latent heat is in the caſe of ſteam, which always occupies a much larger ſpace than the ſubſtance from which it was produced; and this whether its temperature is greater or leſs than the ſurrounding atmoſphere.

10. The difference between latent and ſenſible heat, then, as far as we can conceive, is, that the expanſive power of the former is directed only againſt the particles of which the body is compoſed; but that of the latter is directed alſo againſt other bodies. Neither doth there ſeem to be any difference at all between them farther than in quantity. If water, for inſtance, hath but a ſmall quantity of heat, its parts are brought near each other, it contracts in bulk, and feels cold. Still, however, ſome part of the heat is detained among the aqueous particles, which prevents the fluid from congealing into a ſolid maſs. But, by a continuation of the contracting power of the cold, the particles of water are at laſt brought ſo near each other that the internal or *latent* heat is forced out. By this diſcharge a quantity of air is alſo produced, the water is congealed, and the ice occupies a greater ſpace than the water did; but then it is full of air-bubbles, which are evidently the cauſe of its expanſion. The heat then becomes *ſenſible*, or, as it were, lies on the outſide of the matter; and conſequently is eaſily diſſipated into the air, or communicated to other bodies. Another way in which the latent heat may be extricated is by a conſtant addition of ſenſible heat. In this caſe the body is firſt raiſed into vapour, which for ſome time carries off the redundant quantity of heat. But as the quantity of this heat is continually increaſed, the texture of the vapour itſelf is at laſt totally deſtroyed. It becomes too much expanded to contain the heat, which is therefore violently thrown out on all ſides into the atmoſphere, and the body is ſaid to burn, or be on fire. See Combustion, Flame, and Ignition.

11. Hence it follows, that thoſe bodies which have the leaſt ſhare of latent heat, appear to have the greateſt quantity of ſenſible heat; but this is only in appearance, for the great quantity they ſeem to contain is owing really to their inability to contain it. Thus, if we can ſuppoſe a ſubſtance capable of tranſmitting heat through it as faſt as it received it; if ſuch a ſubſtance was ſet over a fire, it would be as hot as the fire itſelf, and yet the moment it was taken off, it would be perfectly cool, on account of its incapacity to detain the heat among the particles of which it was compoſed.

12. The heat, therefore, in all bodies conſiſts in a certain violent action of the elementary fire within them tending from a centre to a circumference, and thus making an effort to ſeparate the particles of the body from each other, and thereby to change its form or mode of exiſtence. When this change is effected, bodies are ſaid to be diſſipated in vapour, calcined, vitrified, or burnt, according to their different natures.

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13. Inflammable bodies are ſuch as are eaſily raiſed in vapours; that is, the fire eaſily penetrates their parts, and combines with them in ſuch quantity, that, becoming exceedingly light, they are carried up by the atmoſphere. Every ſucceeding addition of heat to the body increaſes alſo the quantity of latent heat in the vapour, till at laſt, being unable to reſiſt its action, the heat breaks out all at once, the vapour is converted into flame, and is totally decompoſed. See the article Flame, and Prop. 10.

14. Uninflammable bodies are thoſe which have their parts more firmly connected, or otherwiſe diſpoſed in ſuch a manner, that the particles of heat cannot eaſily combine with them or raiſe them into vapour.

15. Heat therefore being only a certain mode of the action of elementary fire, it follows, that the capacity of a body for containing it, is only a certain conſtitution of the body itſelf, or a diſpoſition of its parts, which can allow the elementary fire contained in it to exert its expanſive power upon them without being diſſipated on other bodies. Thoſe ſubſtances which allow the expanſive power of the fire to operate on their own particles are ſaid to contain a great deal of heat; but thoſe which throw it away from themſelves upon other bodies, though they feel very hot, yet philoſophically ſpeaking they contain very little heat.

16. What is called the *quantity* of heat contained in any ſubſtance, if we would ſpeak with the ſtricteſt propriety, is only the apparent force of its action, either upon the parts of the body itſelf, or upon other bodies in its neighbourhood. The expanſive force of the elementary fire contained in any body upon the parts of that body, is the *quantity of latent heat* contained in it; and the expanſive force of the fire exerted upon other bodies which touch or come near it, is the *quantity of ſenſible heat* it contains.

17. If what we call *heat* conſiſts only in a certain action of that fluid called *elementary fire*, namely, its expanſion, or acting from a centre to a circumference, it follows, that if the ſame fluid act in a manner directly oppoſite to the former, or preſs upon the particles of a body as from a circumference to a centre, it will then produce effects directly oppoſite to thoſe of heat, i. e. it will then be abſolute *cold*, and produce all the effects already attributed to Cold. See that article.

18. If heat and cold then are only two different modifications of the ſame fluid, it follows, that if a hot body and a cold one are ſuddenly brought near each other, the heat of the one ought to drive before it a part of the cold contained in the other, *i. e.* the two portions of elementary fire acting in two oppoſite ways, ought in ſome meaſure to operate upon one another as any two different bodies would when driven againſt each other. When a hot and a cold body therefore are brought near each other, that part of the cold body fartheſt from the hot one ought to become colder than before, and that part of the hot body fartheſt from the cold one ought to become hotter than before.

19.

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19. For the same reason, the greatest degree of cold in any body ought to be no obstacle, or at least very little, to its conceiving heat, when put in a proper situation. Cold air, cold fuel, &c. ought to become as intensely heated, and nearly as soon, as that which is hotter.

The two last propositions are of great importance. When the first of them is thoroughly established, it will confirm beyond a doubt, that cold is a *positive*, as well as heat; and that each of them has a separate and distinct power, of which the action of its antagonist is the only proper limit; *i. e.* that heat can only limit the power of cold, and *vice versa*. A strong confirmation of this proposition is the experiment related by M. Geoffroy; an account of which is given under the article Cold. Another, but not so well authenticated, is related under the article Congelation.—De Luc's observation also, mentioned by Dr Cleghorn, affords a pretty strong proof of it; for if the lower parts of the atmosphere are cooled by the passage of the sun's rays at some distance above, and it hath been already shown that they do not *attract* the heat from the lower parts, it follows, that they must *expel* part of the cold from the upper regions.—The other proposition, when fully established, will prove, that heat and cold are really convertible into one another; which indeed seems not improbable, as we see that fires will burn with the greatest fierceness during the time of intense frosts, when the coldest air is admitted to them; and even in those dismal regions of Siberia, when the intense cold of the atmosphere is sufficient to congeal quicksilver, it cannot be doubted that fires will burn as well as in this country; which could not happen if heat was a fluid *per se*, and capable of being carried off, or absolutely diminished in quantity, either in any part of the atmosphere itself, or in such terrestial bodies as are used for fuel.

§ 2. *Of the general Effects of Heat.*

Having said thus much concerning the nature of heat in general, we come now to a particular explanation of its several effects, which indeed constitute the whole of the active part of chemistry.—These are,

I. *Expansion*, or increase of bulk in every direction. This is a necessary consequence of the endeavour which the fluid makes to escape in all directions, when made to converge into a focus. The degree of expansion is unequal in different bodies, but in the same body is always proportionable to the degree of heat applied. There are two different instruments in use for ascertaining the degrees of expansion; and as we have already shown, that the degree of heat can only be known by the expansion, these effects of heat upon the instrument are usually taken for the degrees of heat themselves. These instruments are called the Thermometer and Pyrometer. The former is composed of a glass tube, with a globe or rather oval tube at one end, and exactly closed at the other: it is most usually filled with mercury or spirit of wine; but mercury is generally preferred on account of its expansions being more equable than those of any other fluid. It has the disadvantage, however, of being subject to congelation; which is not the case with spirit of wine, when very highly rectified. Spirit-of-wine thermometers, therefore, ought not to be entirely disused, but seem rather a necessary part of the chemical apparatus, as well as those made with mercury.

103 Instruments for measuring the expansions of bodies.

As no thermometer made with any fluid can measure either the degrees of heat about the point at which it boils, or the degrees of cold below which it congeals, instruments have been contrived by which the expansion of solid bodies, though much less than what is occasioned by an equal degree of heat in a fluid, may become visible. These were usually called *Pyrometers*; but Mr Wedgewood has lately contrived a method of connecting the two together, in which the highest degree of heat, exceeding even that of a glass-house furnace, may be measured as accurately as the more moderate degrees by the common mercurial thermometer. See Thermometer.

104 Wedgewood's improvement of the thermometer.

105 Instances of bodies expanding by cold.

Expansion in some cases does not appear to be the effect of heat, of which we have two remarkable instances, viz. of iron, which always expands in cooling after it has been melted; and of water, which expands with prodigious force in the act of freezing. The power with which iron expands in the act of passing from a fluid to a solid state, has never been measured, nor indeed does it seem easy to do so; but that of freezing water has been accurately computed. This was done by the Florentine Academicians, who having filled an hollow brass ball of an inch diameter with water, exposed it to a mixture of snow and salt, in order to congeal the water, and try whether its force was sufficient to burst the ball or not. The ball, being made very strong, resisted the expanding force of the water twice, even though a considerable part of its thickness had been pared off when it was perceived too strong at first. At the third time it burst; and by a calculation founded on the thickness of the globe and the tenacity of the metal, it was found that the expansive power of a spherule of water only one inch in diameter, was sufficient to overcome a resistance of more than 27,000 pounds, or 13 tons and an half.

106 Prodigious force exerted by water in freezing.

107 Used as an argument for the existence of cold as a positive substance.

A power of expansion so prodigious, little less than double that of the most powerful steam-engines, and exerted in so small a body, seemingly by the force of cold, was thought to be a very powerful argument in favour of those who suppose cold to be a positive substance as well as heat; and indeed contributed not a little to embarrass the opposite party. Dr Black's discovery of latent heat, however, has now afforded a very easy and natural explication of this phenomenon. He has shown, that, in the act of congelation, water is not cooled more than it was before, but rather grows warmer: that as much heat is discharged, and passes from a latent to a sensible state, as, had it been applied to water in its fluid state, would have heated it to 135°. In this process the expansion is occasioned by a great number of minute bubbles suddenly produced. These were formerly supposed to be formed of *cold* in the abstract; and to be so subtile, that, insinuating themselves into the substances of the fluid, they augmented its bulk, at the same time that, by impeding the motion of its particles upon each other, they changed it from a fluid to a solid. Dr Black, however, has demonstrated, that these are only air extricated during the congelation; and to the extrication of this air he very justly attributes the prodigious expansive force exerted by freezing water. The only

108 Explained by Dr Black's theory of latent heat.

109 The expansion produced by the exsiccation of air-bubbles.

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only queſtion, therefore, which now remains is, By what means this air comes to be extricated, and to take up more room than it naturally does in the fluid? To this we can ſcarce give any other anſwer, than that part of the heat which is diſcharged from the freezing water combines with the air in its unelaſtic ſtate, and, by reſtoring its elaſticity, gives it that extraordinary force, as we ſee alſo in the caſe of air ſuddenly extricated in the exploſion of gunpowder. Thus expanſion, even in the caſe of freezing, is properly an effect of heat; and muſt therefore be conſidered as a phenomenon uniformly and certainly attending the action of heat, and in all caſes to be aſcribed to it.

110 The air extricated by part of the heat contained in the water.

111 Capacity of a body for containing heat, the ſame with the action of heat upon that body.

The only way in which the element or fluid of fire can be ſuppoſed to act, and the way in which we can have a rational idea of its being able to produce both heat and cold according to the diverſity of its action, has been already explained ſo fully, that it is needleſs at preſent to enter into any further diſcuſſion of the ſubject. It will eaſily appear, that the *capacity* for containing heat is nothing different from the action of heat upon that body in expanding, and at laſt altering its form in ſuch a manner, as either to be able to inſinuate itſelf among the particles in much greater quantity than before, ſtill retaining its internal action, though the external one becomes imperceptible; or ſcattering them in ſuch a manner, that it breaks forth in great quantity in its peculiar appearances of fire and light; in the former caſe producing vapour or ſmoke, and in the latter flame, as ſhall afterwards be more fully explained. It muſt likewiſe appear, that

112 Impoſſibility of determining the quantity of heat any body contains.

to determine the quantity of heat in any body is altogether impoſſible: and with regard to the loweſt degree of heat, or a total expulſion of that fluid, ſo far from being able to determine what it is, the probability muſt be, that nature does not admit of any ſuch thing; for if heat conſiſts in the expanſive action of a certain fluid, and cold in its oppoſite or contractile action, there is very little reaſon to ſuppoſe that the conſtitution of nature will allow any one of theſe actions entirely to ceaſe, as it does not appear by what means it could again be renewed. Cold, as we have already ſeen, always tends to produce electricity; and the connection betwixt that and fire is ſo ſtrong, that we cannot ſuppoſe the former to be carried to any great extreme without producing the latter. Whatever we may therefore ſuppoſe concerning the capacities of different bodies for containing heat, or concerning the point of total privation of heat, muſt be altogether void of foundation. A rule, however, has been given by Mr Kirwan for finding the point of total privation, which, together with its demonſtration, we ſhall ſubjoin; and as it is neceſſary for the better underſtanding of this, to call to remembrance what has been ſaid concerning the difference between the temperatures and ſpecific heats of bodies, we ſhall inſert an epitome of the doctrine from Mr Nicholſon.

113 Mr Nicholſon's account of the capacities of bodies for containing heat, &c.

"If two equal bodies of different kinds and temperatures be brought into contact, the common temperature will ſeldom, if ever, be the mean betwixt the two original temperatures; that is to ſay, the ſurplus of heat in the hotter body will be unequally divided between them, and the proportions of this ſurplus retained by each body will expreſs their reſpective diſpoſitions, affinities, or capacities for heat.—If, therefore, a given ſubſtance, as for example fluid water, be taken as the ſtandard of compariſon, and its capacity for heat be called one, or unity, the reſpective capacities of their bodies may be determined by experiment, and expreſſed in numbers in the ſame manner as ſpecific gravities uſually are. And becauſe it is eſtabliſhed as well from reaſon as experiment, that the ſame capacity for heat obtains in all temperatures of a given body, ſo long as its ſtate of ſolidity, fluidity, or vapour is not changed, it will follow, that the whole quantities of heat in equal bodies of a given temperature will be as thoſe capacities. And as the reſpective quantities of matter, in bodies of equal volume, give the proportions of their ſpecific gravities, ſo the reſpective quantities of heat in bodies of equal weight and temperature give the proportions of their ſpecific heats.

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"A greater capacity for heat, or greater ſpecific heat, in a given body, anſwers the ſame purpoſe with reſpect to temperature as an increaſe of the maſs; or the quantity of heat required to be added or ſubducted, in order to bring a body to a given temperature, will be as its capacity or ſpecific heat.

"The capacities not only differ in various bodies, but alſo in the ſame body, according as it is either in a ſolid, fluid, or vaporous ſtate. All the experiments hitherto made conſpire to ſhow, that the capacity, and conſequently the ſpecific heat, is greateſt in the vaporous, leſs in the fluid, and leaſt in the ſolid ſtate.

"The quantity of heat that conſtitutes the difference between the ſeveral ſtates, may be found in degrees of the thermometer. Thus, if equal quantities of water at 162° and ice at 32° of temperature be mixed, the ice melts, and the common temperature becomes 32°; or otherwiſe, if equal quantities of frozen and fluid water, both at 32°, be placed in a like ſituation to acquire heat from a fire, the water will become heated to 162°, while the ice melts without acquiring any increaſe of temperature. In either caſe the ice acquires 130° of heat, which produces no other effect than rendering it fluid. Fluid water, therefore, contains not only as much more heat than ice, as is indicated by the thermometer, but alſo 130°, that is in ſome manner or other employed in giving it fluidity. And as fluid water cannot become ice without parting with 130° of heat beſides what it had above 32 in its temperature; ſo alſo ſteam cannot become condenſed into water without imparting much more heat to the matters it is cooled by, than water at the ſame temperature would have done.

"The heat employed in maintaining the fluid or vaporous form of a body, has been called latent heat, becauſe it does not affect the thermometer.

114 Mr Kirwan's theorem for finding the point of total privation of heat.

"From the conſideration of the ſpecific heats of the ſame body in the two ſtates of fluidity and ſolidity, and the difference between thoſe ſpecific heats, is deduced a method of finding the number of degrees which denote the temperature of any body immediately after congelation, reckoned from the natural zero, or abſolute privation of heat. The rule is; multiply the degrees of heat required to reduce any ſolid to a fluid ſtate, by the number expreſſing the ſpecific heat of the fluid: divide this product by the difference between the numbers expreſſing the ſpecific heat of the body in each ſtate; the quotient will be the number

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of degrees of temperature, reckoned from an abſolute privation of heat.

"This theorem is Mr Kirwan's, and may be proved thus. Let s repreſent the required temperature of the body juſt congealed, l = the number of degrees that expreſs the heat required to reduce it to fluidity, n = the ſpecific heat of the ſolid, and m = the ſpecific heat of the fluid. Then $s+l : s :: m : n$. Whence $s = \frac{ln}{m-n}$ = the temperature from the natural zero in thermometrical degrees of the fluid. But becauſe the actual fall of the thermometer is to be produced by cooling the ſolid, muſt pay attention to its capacity. The quantity of heat required to produce a given change of temperature in a body is as its capacity; and conſequently the changes of temperature, when the quantity of heat is given, will be inverſely as the capacities: therefore, $n : m :: \frac{ln}{m-n} : \frac{ln}{m-n} = s$. which is the rule above mentioned.

"If the data l, m, and n, be accurately obtained by experiment, in any one inſtance, and the difference between the zero of Fahrenheit's ſcale and the natural zero be thence found in degrees of that ſcale, this difference will ſerve to reduce all temperatures to the numeration which commences at the natural o. So that s being known in all caſes, if any two of the quantities l, m, or n, be given in any body, the other may be likewiſe had. For $l = \frac{sm-sn}{m}$; and $m = \frac{sn}{s-l}$ and $n = \frac{sm-lm}{s}$.

"To give an example of this curious role, let it be required to determine how many degrees of refrigeration would abſolutely deprive ice of all its heat? The degrees of heat neceſſary to melt ice are 130; and the ſpecific heats of ice and water are as 9 to 10. The number 130 multiplied by 10, produces 1300, and divided by the difference between 9 and 10 quotes 1300: therefore if ice were cooled 1300 degrees below 32°, or to —1268 of Fahrenheit's ſcale, it would retain no more heat."

II. *Fluidity* is another effect of heat, and is capable of taking place in all bodies hitherto known, when the fire is carried to a certain pitch. Theories have been invented, by which fluidity was aſcribed to the ſmoothneſs and round figure of the particles whereof bodies were compoſed, and ſolidity to an angular or irregular figure. It has alſo been aſcribed to a ſtronger degree of attraction between the parts of ſolids than of fluids. Dr Black, however, has ſhown, that in the caſe of melting ice, we are certainly to aſcribe the acquired fluidity of the water to the abſorption of heat. This was determined by a deciſive experiment, in which he expoſed a Florence-flaſk full of water to the atmoſphere in a warm room, when he found that the heat in the air evidently left it, to flow into the ice in the bottle, and reduced it to fluidity. The air thus deprived of its heat, he felt ſenſibly deſcending like a cold blaſt from the bottle, and continuing to do ſo as long as any of the ice remained unthawed; yet after it was all melted, the temperature of the fluid was no more than 32°. Different degrees of heat are requiſite for converting different ſolids into fluids, for which ſee the *Table of Degrees of* HEAT.

115 Fluidity to be aſcribed to the abſorption of heat.

This theory receives an additional confirmation from the quantity of heat which is always known to be produced by the converſion of a fluid into a ſolid. And that this is really the caſe appears, 1. From what happens in the congelation of waters, it appears that ice is formed very ſlowly, and with ſeveral circumſtances which ſupport the theory.—Thus, if we expoſe equal quantities of water to the air, which is perhaps 10° below froſt, and add to one of theſe a ſmall quantity of ſalt or ſpirit of wine, and obſerve the cooling of each, we ſhall find them both grow gradually colder, until they arrive at the temperature of froſt; after which the water containing the ſalt will continue to grow colder, until it has arrived at the temperature of the air, at the ſame time that only a ſmall quantity of the other water is converted into ice. Yet were the common opinion juſt, it ought all to have been congealed by this time; inſtead of which, it is ſcarce grown a degree colder during the whole time. Its remaining at the ſame temperature for ſo long time, ſhows that it has been communicating heat to the atmoſphere; for it is impoſſible that any body can remain in contact with another that is colder, without communicating heat to it. Whence then comes this heat? There muſt be ſome ſource adding to the ſenſible heat of the water, ſo as to keep up its temperature to the freezing point: and this ſource of heat muſt be very conſiderable; for it will continue to act for a very long time before the water is changed into ice; during all which time, even to the laſt drop, the water is not a degree colder than 32° of Fahrenheit's thermometer. This, therefore, is the *latent heat* of the water, which had formerly entered into it during its tranſition from ice to a fluid ſtate.

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116 Senſible heat produced by the converſion of a fluid into a ſolid.

A ſtill ſtronger argument is derived from the following experiment; which evinces that the fluidity of water really depends upon its latent heat, and that the ſenſible heat is only a mean or condition to its containing the latent heat. This experiment conſiſts in expoſing water contained in a covered beer-glaſs to the air of a cold froſty night; and when the atmoſphere is at the temperature of perhaps 10° or 12° below froſt, the water will acquire that temperature without freezing: ſo that the fluidity of the water does not altogether depend on the quantity of ſenſible heat contained in it. The congelation, however, may be brought on by touching it with a bit of ice, with the extremity of a wire, by a ſhock upon the board, or otherwiſe diſturbing it; and we then find the temperature ſuddenly raiſed up to 32°. This ſhows plainly, that the water has a diſpoſition to retain the quantity of latent heat, upon which its fluidity muſt immediately and neceſſarily depend; and it retains it with a certain degree of force, ſo as to keep the water fluid in a temperature below that in which it uſually parts with the latent heat and congeals. By diſturbing it, however, we inſtantly bring on the congelation, which cannot take place without an extrication of the latent heat; which then, being changed into the ordinary or moveable heat, raiſes the thermometer as uſual. The quantity of heat diſcharged from the firſt ſmall portion of ice formed in the water is ſufficient to prevent any more latent heat from ſeparating, and conſequently from any more ice being produced till more of the ſenſible heat is abſtracted.

117 Argument in ſupport of the theory from water remaining fluid tho' cooled below 32°.

This doctrine extends not only to ſuch bodies as are actually converted from a ſolid to a fluid, by from

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a fluid to a ſolid ſtate, but to ſuch as are in a kind of middle ſtate betwixt ſolidity and fluidity; for every degree of ſoftneſs depends on a certain degree of heat contained in the body. Thus, for inſtance, melted waa, allowed to cool ſlowly, ſoon becomes opaque and conſiſtent; but it muſt be colder ſtill before it attains its utmoſt degree of hardneſs. There is therefore a certain degree of heat below which every body is ſolid, and above which every one is fluid; the former being called the *congealing*, and the latter the *melting*, point of bodies.

118 Heat the cauſe of the ſoftneſs of bodies approaching to fluidity.

119 Abſorption of heat the univerſal cauſe of fluidity.

By making experiments upon different ſubſtances, the Doctor was convinced that latent heat is the univerſal cauſe of fluidity; and the doctrine holds good in all the experiments that have hitherto been made upon ſpermaceti, bees-wax, and ſome of the metals. If they are melted, allowed to cool ſlowly, and a thermometer be immerſed into them, we find, that as long as they continue fluid, their ſenſible heat diminiſhes very faſt; but as ſoon as they begin to grow ſolid, the ſenſible heat continues greater than that of the air to which they are expoſed; and during all this time it is communicating heat to the air, without having its ſenſible heat diminiſhed: for the latent heat within the fluid gradually receives a ſenſible form, and keeps up the temperature, proving a ſource of ſenſible heat, which is communicated to the neighbouring bodies as well as the ſurrounding air. The ſoftneſs and ductility of bodies depend on this alſo.

III. *Evaporation.* A third effect of the action of heat is that of converting bodies into vapour, by which they are rendered ſpecifically lighter than the ſurrounding atmoſphere, and enabled to riſe in it. To account for this, many theories have been invented; but that of Dr Black, who accounts for it, as well as fluidity from the abſorption of latent heat, is now univerſally received. The circumſtances by which he proves and illuſtrates his doctrine are the following:

120 Vapour formed by the abſorption of latent heat.

1. When we attend to the phenomena of boiling water, in a tea kettle for inſtance, it may, when firſt put upon the fire, be about the temperature of 48° or 50°. In a quarter of an hour it will become heated to 212°. It then begins to boil, and has gained 162° of vapour in that time. Now, if the converſion of it into vapour depended on the quantity of ſenſible heat introduced, we may aſk how long it will be neceſſary to raiſe it all in vapour? Surely another quarter of an hour ſhould be ſufficient; but this is far from being the caſe. Dr Black made ſome experiments upon this ſubject in conjunction with another gentleman. Having the opportunity of what is called a kitchen-table or a thick plate of caſt iron, one end of which was made ſenſibly red-hot, they ſet upon this ſome iron veſſels with circular flat bottoms, of about four inches diameter, and which contained a quantity of water. The temperature of the water was noted, as alſo when it began to boil; and when the whole of it was boiled away, it was found, that when ſet on the table its temperature had been 54°; in four minutes it began to boil, and in that ſpace of time received 158° degrees of heat. Had the evaporation, therefore, depended merely on the quantity of ſenſible heat introduced, it ought to have been diſſipated entirely in a ſingle minute more. It was, however, 18 minutes in diſſipating; and therefore had received 807 degrees of heat before it was all evaporated. All this time, therefore, while the water continued to boil, it was receiving a great quantity of heat, which muſt have been flowing equally faſt out of it; for the veſſel was no hotter, and the iron plate continued equally hot, the whole time. The veſſels were of different ſhapes, ſome of them cylindrical, ſome conical, others widening upwards; one of the deſigns of the experiment being to ſhow how far the evaporation was retarded by the particular form of the veſſels. By ſuſpending a thermometer in the mouth of one of the evaporating veſſels, the heat of the ſteam was found to be exactly 212°; ſo that as the great quantity of heat abſorbed was found neither to have remained in the water, nor to have been carried away by the ſteam in a ſenſible manner, we have nothing left to ſuppoſe, but that it flew off as one of the component parts of the ſteam in a latent ſtate.

121 Experiments by Dr Black on the converſion of water into vapour.

2. In an experiment to ſhow the fixedneſs of the boiling point of water, Dr Black incloſed ſome of that fluid in a ſtrong vial having a thermometer in it, and ſtopped cloſe with a cork. By the application of heat he hoped now to be able to raiſe the thermometer ſome degrees above the boiling point, which would be the natural conſequence of the confinement of the ſteam. When this was done, he pulled out the cork, and ſuppoſed that the water would now all fly out in vapour: but in this he was totally diſappointed; a ſudden and very tumultuous boiling enſued, which threw out ſome of the water; but though ſome quantity of ſteam likewiſe iſſued, the quantity of water was not conſiderably diminiſhed. The vial had been heated to 20° above the boiling point, but almoſt inſtantly cooled down to 212°, when the cork was taken out.

3. Mr Watt, in making ſome experiments on the force of ſteam, had occaſion to uſe Papin's digeſter, with a pipe proceeding from its ſide; the orifice of which was ſhut with a valve preſſed down by one end of a lever. Thus he heated ſteam to 400° of Fahrenheit; after which, having ſuddenly ſtruck off the lever, a quantity of ſteam flew out with conſiderable noiſe, and with ſuch violence as to make an impreſſion on the ceiling of the room; but this noiſe gradually diminiſhed, and after ten minutes ceaſed entirely; and upon opening the machine, he found the greateſt part of the water ſtill remaining.

122 Boiling point of water in vacuo determined by Mr Boyle.

4. The change of ſenſible into latent heat in the formation of vapour, appears ſtill more evident in the boiling of water *in vacuo*. Mr Boyle took a quantity of water which had been previouſly boiled to purge it of its air, and put it whilſt hot under the receiver of an air-pump. In conſequence of this it began again to boil, and continued boiling till it was only lukewarm, and it ſoon arrived at this temperature; ſo that in this caſe alſo the heat had diſappeared during the converſion of the fluid into vapour. Others have repeated the experiment, as Boerhaave, Muſchenbroek; and Robinſon, who lectures on chemiſtry in Glaſgow, ſays that the heat diminiſhes very faſt till it comes to 90° or 95°, which ſeems to be the boiling point of water *in vacuo*. As a conſiderable part of the heat thus diſappears, and is to be diſcovered neither in the water nor in the vapour, we muſt conclude that it enters the latter as part of its compoſition.

123 And by Mr Robinſon of Glaſgow.

5. Thus alſo we may underſtand ſome curious experiments made by Dr Cullen upon ether and other volatile

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latile fluids. He employed ſome perſons to make experiments upon the cold produced by evaporation; and willing to repeat them himſelf *in vacuo*, he put ſome of the moſt volatile liquors under the receiver of an air-pump. One of theſe was ether. It was contained in a glaſs, in which there was alſo placed ſome water. When the air was extracted, the ether began to boil, and to be converted into vapour, till it became ſo very cold that it froze the water contained in the veſſel, though the temperature of the room was about 50°. Here therefore there was a quantity of heat which diſappeared all of a ſudden; which it is plain could not be owing to its having any communication with that of the atmoſphere or other cold bodies, as they could not render it colder than they were themſelves. Ether therefore is to be conſidered as a fluid ſo volatile, that were it not for the preſſure of the atmoſphere it would be perpetually in the ſtate of vapour.

124 Dr Cullen's experiments on cold produced by evaporation.

125 Heat expelled in great quantity by the condenſation of vapour.

6. That this heat which enters into the vapour is not deſtroyed, but remains in a latent ſtate, is eaſily proved; for we find that a great quantity of heat is expelled from vapour when it is condenſed again to form the body it compoſed originally. This is eaſily aſcertained by obſerving the quantity of heat communicated to the water in the refrigeratory of a ſtill by any given quantity of liquid which comes over. Thus, if the refrigeratory contain 100 pounds of water, and the diſtillation be continued till only one pound has come over, ſuppoſing the water in the refrigeratory to have received 8° of heat; it is plain, that if the whole of the quantity thus received could be thrown into one pound of water, the latter would be heated to 800°; which is ſufficient to make an equal ſpace of iron red-hot. But that this quantity of heat is received by the water in the refrigeratory has appeared from ſeveral experiments, which ſhow that water, by being converted into vapour, abſorbs between 800° and 900° of heat.

126 Mr Watt's experiments on the evaporation of fluids *in vacuo*.

On this principle we may explain ſome curious experiments made by Mr Watt with regard to the evaporation of fluids *in vacuo*. That gentleman had formed a deſign of converting water into ſteam with leſs expence of fuel, which he imagined might be done by removing the preſſure of the air from the water, which he thought would thus require a much ſmaller quantity of fuel to convert it into vapour. Dr Black, however, perceiving that only the ſmall quantity of ſenſible heat the ſteam poſſeſſed could thus be carried off, informed him beforehand that his project would not be found attended with the advantages he imagined. The experiment, however, was made in the following manner: A ſtill was procured of tinned iron, the body of which reſembled that of a retort, with a veſſel ſerving as a condenſer; the whole apparatus being cloſe, excepting a little hole in the extremity of the condenſing veſſel. He firſt exhauſted this veſſel of air by holding the condenſer over the retort, in which ſome boiling water was contained, until it was entirely converted into ſteam. He then ſuddenly ſtopped the little hole, and removed the veſſels from the fire; when, after they were cooled, there was a pretty perfect vacuum formed by the condenſation of the ſteam. The retort was then put on the fire, and turned ſo that the pipe and condenſing veſſel ſhould hang downward; and plunging them into cold water, heat was applied to the ſtill till the water boiled, as could be known by the noiſe. It was kept boiling, till a quantity of ſteam was puſhed over and condenſed with a very gentle heat, the ſtill feeling little warmer than his hand. After a certain quantity had been diſtilled, the apparatus was removed, and he had noted the heat of the water in the refrigeratory; but though the ſteam all along came over with ſo gentle a heat, he found the quantity communicated to the water in the refrigeratory to be ſurpriſingly great, not leſs than 1000°; ſo that it would have been more than ſufficient to heat the quantity of liquor which came over red-hot.

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127 Ignition a conſtant and ſteady effect of heat.

IV. *Ignition*, or the cauſing bodies to ſhine or emit light in the dark. This may be conſidered as a ſpecies of inflammation, and ſhall therefore be explained under that head: here we ſhall only obſerve, that ignition is a more ſteady and conſtant effect of heat than either the production of fluidity or vapour; and appears not only to be the ſame degree with regard to any particular body, but the ſame with regard to all kinds of matter. Dr Martin imagines, that a red-hot piece of iron is hotter than a red hot piece of ſtone; but if you put into a crucible an hundred different kinds of matter, as metals, glaſs, &c. that are capable of bearing a red heat, they will all begin to appear luminous about the ſame time, and their brightneſs will increaſe equally as their heat increaſes. But it is difficult to know at what point this begins, as we have no way of aſcertaining the beginning or loweſt degree of ignition but by the effect it produces on our ſight, and we cannot be ſure that we perceive the loweſt degree of light; for we know that other animals ſee objects with ſuch light as appears perfect darkneſs to us. Sir Iſaac Newton's method of determining this has been already mentioned.

128 All ignited bodies equally hot.

129 Metals may become vaſtly hotter after they are brought into fuſion.

Dr Boerhaave entertained a notion, that ſome metals, after being once brought into a ſtate of fuſion, could be made no hotter; and propoſes the poſſibility of this as a queſtion, "Whether the heat of metals can be increaſed after they are melted?" There is not, however, the leaſt doubt but that their heat may be vaſtly increaſed after they are melted; and we know certainly that ſuch as are of eaſy fuſion may be heated to a vaſtly greater degree after being melted; and why may not thoſe requiring ſtronger heats be the ſame? We are ſure that this is the caſe with ſilver, which, after being melted, may be brought to ſuch a heat as to become too dazzling for the eye to bear it. If Boerhaave's opinion were juſt, it would be impoſſible to caſt any metal into moulds, becauſe it muſt loſe a little heat in being removed from the fire and in entering the mould; nor would they receive a proper impreſſion if they did not contain a greater quantity of heat than was neceſſary for their fuſion.

130 Ignition an univerſal effect of fire.

Ignition appears to be univerſal; and all bodies capable of ſupporting it without being converted into an elaſtic vapour that cannot be confined, are affected the ſame way. Water, which in its ordinary ſtate ſeems very little capable of enduring this heat, may be confined in ſtrong veſſels ſo as to become capable of melting lead, which is more than half way betwixt a red heat and that of boiling water. Experiments with the colipile ſhow alſo that it can be made red-hot; for when the ſteam paſſes through burning fuel, it can-

131 Water may be made ſufficiently hot to melt lead.

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not miſs of being made red-hot. Dr Black has alſo frequently ſeen the vapour of water heated by throwing it into the aſh-pit of a furnace, ſo as to produce a very large and tranſparent flame in riſing up through the vent. There is reaſon therefore to conclude, that ignition is one of the more general effects of heat, only that ſome bodies are incapable uf it until they he reduced to a ſtate of vapour.

V. The laſt of the effects of heat here to be taken notice of is *inflammation*. It differs from ignition in this, that the bodies ſubject to the latter gradually grow cooler as ſoon as they are taken out of the fire, without undergoing any conſiderable change; while thoſe ſubject to inflammation become continually hotter and hotter, communicating a vaſt quantity of heat tu others, and undergoing a kind of decompoſition themſelves, inſomuch, that by this means they have been thought to be reduced to their conſtituent principles or elements. Some ſubſtances indeed ſeem to be an exception to this, as in the open air they burn totally away, without leaving any reſiduum or producing any ſoot. Theſe are ſpirit of wine, ſulphur, and eſpecially inflammable air; which laſt, by a proper mixture with dephlogiſticated air, may be ſo totally conſumed, that ſcarce a fiftieth part of the two will remain. On a careful examination of theſe ſubſtances, however, we find that there is by no means a total conſumption, or indeed, properly ſpeaking, any conſumption at all, at leaſt if we meaſure the quantity of matter by the weight of the ſubſtance employed. Thus, if we are at pains tn collect the vapour of burning ſpirit of wine, we will find, that an aqueous dew is collected, which ſometimes equals the ſpirit of wine itſelf in weight. With regard to ſulphur, the caſe is ſtill more evident; for the vapour uf this, when collected, not only equals but greatly exceeds the weight of the ſulphur employed; and on burning dephlogiſticated and inflammable air together, as much water is found to be produced as nearly equals the weight of both airs. In like manner, when we collect the aſhes, water, ſoot, and oil, procured by burning any of the common inflammable ſubſtances, we will find, that they in general exceed the weight of the matter employed. The great waſte of bodies by fire, therefore, is owing to the diſſipation of the volatile principles they contain, which are carried off and rendered inviſible by being mixed with the atmoſphere.

132 Difference betwixt ignition and inflammation.

133 Inflammation decompounds but does not deſtroy bodies.

134 Spirit of wine yields a great quantity of water by being burned.

135 Water produced by the deflagration of dephlogiſticated and inflammable air.

136 Of the exiſtence of phlogiſton.

The proceſs of inflammation has long been explained from the preſence of a ſubſtance called *Phlogiſton* in thoſe bodies which are ſubject to it, and which is ſuppoſed to be the ſame in all bodies belonging to this claſs; the differences between them ariſing from the principles with which it is combined. This doctrine, which was firſt introduced by Stahl, has given occaſion to ſuch various and diſcordant theories, that the exiſtence of phlogiſton has been lately denied altogether by M. Lavoiſier, who brought in a new method of ſolving the phenomena of fire, heat, and ignition, without any aſſiſtance from this principle.

137 Denied by M. Lavoiſier.

138 Arguments againſt it drawn from the increaſed weight of metals by calcination.

The foundation of M. Lavoiſier's doctrine is the increaſe of weight in metals by calcination. This increaſe he finds to be preciſely, or very nearly ſo, proportionable to the decreaſe of weight in the air in which they are calcined. His theory, therefore, is, that in the act of calcination, the pure part of the air, which he calls the *acidifying or oxygeneus* principle, unites with the metal, and converts it into a calx. In like manner, in ſubſtances truly inflammable, the heat and flame are ſuppoſed to proceed from the union of the pure air, or the nxygenous principle, with the ſubſtance, and converting it into thoſe principles which are found to remain after inflammation. Thus the increaſed weight of the ſubſtance is eaſily accounted for; while the inflammation, in his opinion, is nothing more than a combination of the inflammable body itſelf with pure air, which has an attraction for it: and in confirmation of this it is urged, that when enmbuſtion is performed in empyreal or dephlogiſticated air, the whole of the latter is abſorbed; but in common atmoſpheiical air only one fourth, being the quantity of pure air contained in it.

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139 His theory of inflammation.

140 Other arguments in favour of this opinion are, that the calces of the perfect metals may be reduced without addition by the mere emiſſion of the oxygenous principle, (dephlogiſticated air); by an union with which they aſſume the form of a calx. Thus he evades a very ſtrong argument uſed by the oppoſite party; who adduced, as a proof of the exiſtence of phlogiſton, the uſe of charcoal in the reduction of metals to their proper form. A diſpute indeed took place betwixt M. Lavoiſier and Dr Prieſtley concerning the reduction of the whole of a mercurial calx formed by an union with the nitrous acid without addition; the Doctor maintaining, that the whole could nut be reduced by mere heat, but that a very perceptible quantity was always loſt: but on a thorough examination of the ſubject, the truth ſeemed rather tu lie on M. Lavoiſier's ſide. See Aerology.

Arguments for the new exiſtence of phlogiſton, from the reduction of the calces of perfect metals without addition.

141 Diſpute betwixt Lavoiſier and Prieſtley.

142 Another theory, ſomewhat ſimilar to that of Lavoiſier's, has been publiſhed by Dr Lubbock, in an Inaugural Diſſertation in 1784. In this he ſuppoſes two kinds of matter to exiſt in the univerſe; one he calls the *principium proprium*, the other the *principium forbile*; and it is this latter, which, according tu nur author, is the principle of mutability, or which, by being united in various proportions with the other, forms bodies of all the different kinds we ſee in nature. It is this principle, therefore, which he ſuppoſes to be abſorbed in the calcination of metals, and not empyreal air, as M. Lavoiſier ſuppoſes; and he contends, that this ſame principle extends throughout the whole ſyſtem of nature, even to the utmoſt celeſtial bounds.

Dr Lubbock's theory.

143 It would exceed the limits of this treatiſe to give an account of the various theories which have been invented, and the arguments uſed for and againſt them; nor indeed is there any occaſion for doing ſo, as late experiments have reduced the diſpute into a much narrower compaſs than before, and furniſhed the moſt deciſive arguments in favour of the exiſtence of phlogiſton.

Diſputes concerning phlogiſton now entirely decided.

144 The greateſt objection to the belief of this principle was, that it could neither be ſeen nor felt by our ſenſes directly, nor diſcover itſelf indirectly by the weight it communicated to the bodies with which it was united; on the contrary, the latter always became lighter in proportion to the quantity they contained: ſo that it was imagined, inſtead of being poſſeſſed of any ſpecific gravity of its own, to be a principle of poſitive levity, ſuch as that of heat or light may be reaſonably ſuppoſed. This objection, however, is now entirely removed; and phlogiſton in the abſtract is found

Objections againſt the exiſtence of phlogiſton from its inviſibility and ſuppoſed want of gravity.

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found to be no ſubtile priociple capable of eluding our reſearches, but one very common, and eaſily met with, being no other than common charcoal. In the laſt edition of this work, under the article PHLOGISTON, it was ſhown, that inflammable air, deprived of its elaſticity, and combined with metallic ſubſtances, is really their phlogiſton; and that in the inflammable bodies commooly uſed, what we call their phlogiſton, is really their oil; and that which exiſts in charcoal, and cannot be driven off by diſtillation, is part of the empyreumatic or burnt oil of the ſubject which adheres ſo obſtinately. A ſimilar doctrine ſoon after appeared in the Philoſophical Tranſactions for 1782, and the identity of phlogiſton and inflammable air was clearly proved by Mr Kirwan. Still, however, it was inſiſted by the French philoſophers and others, that no *facts* had been adduced againſt M. Lavoiſier, nor any deciſive proofs appeared of the exiſtence of phlogiſton as a ſubſtance *per ſe*. Facts of this kind, however, have now been diſcovered by Dr Prieſtley, and are related under the articles AEROLOGY, CHARCOAL, PHLOGISTON, &c. It is ſufficient at preſent to mention, that he has been able to convert the pureſt ſpirit of wine, and one of the hardeſt metals, viz. copper, as well as ſeveral others, into a ſubſtance entirely reſembling charcoal; that by means of the heat of a burning glaſs in vacuo, he has diſſipated this metallic charcoal, as well as the common kind, *entirely* into inflammable air, with the aſſiſtance only of a little water, which ſeems neceſſary to make it aſſume the aerial form, and perhaps is the true ſolvent of it; and by a combination with the element of heat, with the aid of the charcoal, is enabled to reſiſt condenſation in the common way*. This inflammable air, when abſorbed by metallic calces, again reduces them to their metallic form: ſo that here is one fact by which the phlogiſton not only appears to our ſenſes, but we are able to aſcertain its quantity with the utmoſt preciſion. Nor can it here be any objection, that the reduced metal is lighter than the calx; for this only proves that the metallic earth, while a calx, is united to a heavy ingredient (the baſis of dephlogiſticated air), and in the latter to a light one, viz. charcoal, the baſis of inflammable air.

145 Common charcoal and phlogiſton the ſame.

146 Deciſive proofs of this identity given by Dr Prieſtley.

147 Spirit of wine and metals convertible into charcoal.

148 Charcoal entirely diſſipated by heat into inflammable air.

* See *Elaſtic Vapour*.

149 Metallic calces reduced by inflammable air.

Another caſe in which the exiſtence of phlogiſton is made equally evident to our ſenſes, and where no ſuch objection can occur, is related under the article AEROLOGY, n° 112. It is there ſhown, that "by the loſs of one grain of charcoal of copper (formed by the union of ſpirit of wine with the metal), and which like common charcoal was conſumed without having any reſiduum, he reduced four ounce-meaſures of dephlogiſticated air till only one-ninth remained unabſorbed by water; and, again, with the loſs of one grain and a half of charcoal, ſix and an half meaſures of dephlogiſticated air were reduced till five and an half meaſures were pure fixed air."—Here, then, is an abſolute and undeniable evidence, that fixed air is compoſed of dephlogiſticated air, and charcoal or phlogiſton, and elementary fire. There were no other ingredients preſent, and the charcoal muſt either have been annihilated or diſpoſed of in the manner juſt mentioned: but the ſuperior weight of the fixed air evidently ſhows that ſome ingredient had been added to the dephlogiſticated air; and which increaſe was more than we can ſuppoſe to ariſe from the condenſation of the dephlogiſticated air during the operation, for this ſometimes amounted to no more than one-thirtieth part.

150 Why metals are lighter in their metallic than in their calcined ſtate.

151 Dephlogiſticated air converted into aerial acid by charcoal.

The ſtrongeſt objection which can be made againſt the doctrine of phlogiſton may be drawn from the total conſumption of pure air in certain caſes of combuſtion, for inſtance, in that of phoſphorus, inflammable air, and iron. It muſt be obſerved, however, that in no caſe whatever is the air totally conſumed; and in that of inflammable air water is produced by the union of the baſis of the latter, that is charcoal, with the baſis of dephlogiſticated air, the oxygenous principle of M. Lavoiſier, and which appears to be one of the component parts of WATER. In the caſe of phoſphorus, the latter is converted into an acid; and in all probability a quantity of water is alſo produced, by which part of it is converted into cryſtalline flowers. The caſe of the iron, therefore, alone remains to be conſidered. Dr Prieſtley's experiments on this ſubject are related at length under the article AEROLOGY, n° 67 *et ſeq.* In them the iron burnt briſkly in dephlogiſticated air, which, according to the common theory, ſhould have indicated the expulſion of a great quantity of phlogiſton; yet the whole reſiduum, of which the fixed air, produced by the ſuppoſed union of the phlogiſton or principle of inflammability, was only a part, ſcarce amounted ſometimes to one-fourteenth of the air originally employed.

152 Objections drawn from the total combuſtion of dephlogiſticated air in ſome caſes.

153 Little phlogiſton expelled from iron by being burnt in dephlogiſticated air.

This argument, however, inſtead of contradicting the exiſtence of phlogiſton, only ſhows, that in ſome caſes the diſſipation of a very ſmall quantity of phlogiſton is neceſſary to inflammation; or that the aerial principle may combine with the iron in its metallic ſtate. In this caſe only a very little quantity of the phlogiſton of the iron was diſſipated; for it was not reduced to a calx, but to that kind of ſcoriæ which flies off in ſcales by beating the metal when red-hot with an hammer. A deciſive proof of this was had by uniting iron thus combined with the baſis of dephlogiſticated air with inflammable air. By this the metal was indeed reduced to perfect iron again; but water was produced at the ſame time from the union of the baſis of the two airs, that of the inflammable air being capable of furniſhing a ſuperfluous quantity, which united with the other into the form of a fluid.

154 The objection inconcluſive.

155 Iron is not reduced to a calx by burning in dephlogiſticated air.

156 Water produced in the reduction of it by inflammable air.

The exiſtence of phlogiſton being thus proved, and its nature aſcertained, we may now proceed to determine the queſtion, Whether the great quantity of heat produced by the combuſtion of inflammable bodies proceeds from the bodies themſelves, or from the air which muſt be admitted to them in order to make them burn? That the heat in this caſe proceeds from the atmoſphere is evident; becauſe in all caſes of combuſtion there is a certain diminution undoubtedly takes place by means of the converſion of the dephlogiſticated part of the atmoſphere into fixed air. It is proved, under the article *Elaſtic Vapours*, that elementary fire is the univerſal cauſe of elaſticity in fluids. By uniting a certain quantity of it with any ſubſtance, the latter at length aſſumes an aerial or vaporous form; and it is this vapour alone which is inflammable*. Different vapours no doubt contain different quantities of theſe ingredients; but in all caſes the baſis of the dephlogiſticated part of the atmoſphere muſt

157 Heat produced in the combuſtion of inflammable bodies coming from the air.

* See the article *Flame*.

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must unite with the phlogiſton of the inflammable body, or with ſomething elſe, ſo that a decompoſition may enſue: and it is this decompoſition which produces the heat and light; for then the fire contained in the atmoſphere having no longer any thing to abſorb it, muſt appear in its proper form. But in thoſe caſes where there is a great quantity of phlogiſton, and conſequently much fixed air produced, the latter abſorbs ſo much heat in a latent ſtate, that the quantity communicated to ſurrounding bodies muſt be greatly diminiſhed; and if by an exceſs of this ingredient, not only fixed air, but the phlogiſticated kind and groſs ſmoke be alſo produced, this diminiſhes the heat ſtill farther by the great abſorption, and will even deſtroy it altogether. The remedy for this is either to diminiſh the quantity of phlogiſton, or to augment the quantity of air; which, by furniſhing a greater quantity of dephlogiſticated baſis, affords an opportunity for the evolution of a greater quantity of heat. On the other hand, when the quantity of air is too great, the phlogiſtic matter cannot combine with the baſis of the pure air in ſufficient quantity to effect a decompoſition; and therefore the heat is abſorbed in a latent ſtate, and the fire goes out.

158 Too much phlogiſton prevents the heat from being intenſe.

159 Too great a quantity of air has the ſame effect.

From this theory, which is further illuſtrated under the articles Fire, Flame, Heat, Phlogiston, &c. we may not only have a rational idea of the manner in which inflammation is generally accompliſhed, but ſee why a fire may be put out both by too great a quantity of fuel, and by too great a quantity of air. We may alſo ſee why the ſolar beams and electric fluid, which contain no phlogiſtic matter, excite a much more powerful heat than any we can raiſe in our hotteſt furnaces. The difference between ignition and inflammation will now likewiſe appear; ſuch bodies as are capable only of ignition containing little or no phlogiſton, but inflammable bodies a great deal.

160 Why the ſolar heat and that of electricity are ſo intenſe.

161 Table of the various degrees of heat.

The following table ſhows the moſt remarkable degrees of heat from the congelation of mercury to that of Mr Wedgewood's hotteſt furnace.

Mercury freezes at	40
Weak ſpirit of wine	32
Brandy at	10
Cold produced by ſnow and ſalt mixed	0
Strong wine freezes at	20
Vinegar freezes at	27
Water freezes at	32
Temperature of ſpring and autumn	50
Ordinary ſummer weather	65
Sultry heat	75
Heat of human blood	97 to 100
Feveriſh heat	108
Bees wax melts	142
Serum coagulates	156
Spirit of wine boils	174
Water boils	212
Tin melts	408
Biſmuth melts	460
Oil of vitriol boils	550
Oil of turpentine boils	561
Lead melts	585
Quickſilver and linſeed-oil boil	600
Iron begins to ſhine in the dark	635
Iron ſhines briſkly in the dark	750
Iron ſhines in the twilight	884
Iron red-hot from a common fire	1050
Red heat fully viſible in day light according to Mr Wedgewood	1077
Heat by which his enamel colours are burnt on	1857
Braſs melts	3807
Swediſh copper melts	4587
Fine ſilver melts	4717
Fine gold melts	5237
Leaſt welding heat of iron	12777
Greateſt ditto	13427
Greateſt heat of a common ſmith's forge	17327
Caſt iron melts	17977
Greateſt heat of Wedgewood's ſmall air-furnace	21877
Extremity of the ſcale of his thermometer	32277

Elective Attraction.

Sect. II. *Of the Doctrine of Elective Attraction, and of the different Objects of Chemiſtry.*

162 Chemical attraction.

Before we proceed to give a general theory of the changes which happen upon the mixtures of different bodies together, or expoſing them ſingly to heat, we muſt obſerve, that all depend on certain qualities in bodies, by which ſome of them are apt to join together, and to remain united while they have an opportunity. The cauſe of theſe qualities is totally unknown; and therefore philoſophers, after the example of Sir Iſaac Newton, have expreſſed the apparent effect of this unknown cauſe by the word *attraction*. From them the word has been adopted by the chemiſts, and is now generally uſed in ſpeaking of the phenomena which are obſerved in the mixture of different ſubſtances; but to diſtinguiſh it from other kinds, it is uſually called *Elective*.

This attraction is not equally ſtrong between all ſubſtances; in conſequence of which, if any body is compounded of two others, and another is preſented to it which has a greater attraction for one of the component parts than they have for one another, the ſubſtance will be *decompounded*. A new compound is then formed by the union of that third ſubſtance with one of the component parts or *elements* (if we pleaſe to call them ſo) of the firſt. If the attraction between the body ſuperadded and either of the component parts of the other is not ſo ſtrong as that between themſelves, no decompoſition will enſue; or if the third ſubſtance is attracted by both the others, a new compoſition will take place by the union of all the three.

163 Objects of chemiſtry how claſſed.

The objects of chemiſtry, as we have already obſerved, are ſo various, that an enumeration of them all is impoſſible. To eaſe the mind, therefore, when ſpeaking of them, and reader more uſeful any thing that is ſaid or wrote on chemiſtry, it is neceſſary to divide them into different claſſes, comprehending in each claſs thoſe bodies which have the greateſt reſemblance to one another, and to which one common rule applies pretty generally.—The diviſion formerly uſed, was that of vegetables, animals, and minerals; but this has been thought improper, as there are many ſubſtances in each of thoſe kingdoms which differ very widely from one another, and which are by no means ſubject to the ſame laws. The moſt approved method,

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Salts. thod, at preſent, of arranging the objects of chemiſtry, is into ſalts, earths, metals, inflammable ſubſtances, waters, animal and vegetable ſubſtances.

Sect III. *Salts.*

164 Salts. Salts are either *fuſible*, that is, capable of abiding the fire, and melting in a ſtrong heat, without being diſſipated; or *volatile*, that is, being diſperſed in vapour with a ſmall heat. Their other properties are, that they are ſoluble in water; not inflammable, unleſs by certain additions; and give a ſenſation of taſte when applied to the tongue.

The moſt general characteriſtic of ſalts is, that they are all ſoluble in water, though ſome of them with much more difficulty than others. Moſt of them have likewiſe the property of forming themſelves, in certain circumſtances, into ſolid tranſparent maſſes of regular figures, different according to the different ſalt made uſe of, and which are termed *cryſtals* of that ſalt. In this ſtate they always contain a quantity of water; and therefore the utmoſt degree of purity in which a ſalt can be procured, is when it has been well cryſtallized, and the cryſtals are freed of their ſuperfluous moiſture by a gentle heat. They generally appear then in the form of a white powder.

165 Phenomena attending their ſolution. In the ſolution of ſalts in water, the firſt thing obſervable is, that the water parts with the air contained in it; which immediately riſes to the top in the form of bubbles. This, however, is moſt remarkable when the ſalt is in the dry form we have juſt now mentioned, becauſe there is always a quantity of air entangled among the interſtices of the powder, which riſes along with the reſt; and this diſcharge of air is ſometimes ſo great, as to be miſtaken for an effervescence. From this, however, it is eſſentially different. See Effervescence.

Another thing obſervable in the ſolution of ſalts is, that a conſiderable change happens in the temperature of the water in which they are diſſolved; the mixture becoming either a good deal warmer or colder than either the ſalt or the water were before. In general, however, there is an increaſe of cold, and ſcarce any ſalt produces heat, except when it has been made very dry, and deprived of that moiſture which it naturally requires; and thus the heating of ſalts by being mixed with water may be explained on the ſame principle with the heat produced by quicklime. See Quicklime.

After ſalt has been diſſolved in a certain quantity by water, no more of that ſalt will be taken up unleſs the water is heated; and as long as the heat continues to increaſe, the ſalt will be diſſolved. When the water boils, at which time it has attained its greateſt heat, and will take up no more ſalt, it is then ſaid to be *ſaturated* with that ſalt. This, however, does not prevent it from taking up a certain quantity of another ſalt, and after that perhaps of a third, or fourth, without letting go any of the firſt which it had diſſolved. How far this property of water extends, has not yet been aſcertained by experiments.

To the above rule there is only one exception known as yet; namely, common ſea-ſalt: for water diſſolves it in the very ſame quantity when cold as when boiling hot. It has been ſaid by ſome, that all deliqueſcent ſalts, or thoſe which grow moiſt on being expoſed to the air, had the ſame property: but this is found to be a miſtake. Salts.

166 Mixture and ſeparation of ſalts. This property of ſolubility, which all the ſalts poſſeſs in common, renders them eaſily miſcible together; and the property by which moſt of them ſhoot into cryſtals, renders thoſe eaſily ſeparable again which have no particular attraction for one another. This is likewiſe rendered ſtill more eaſy by their requiring different proportions of water, and different degrees of heat, to ſuſpend them; for by this they cryſtallize at different times, and we have not the trouble of picking the cryſtals of one out among thoſe of the other.

167 Hypotheſis concerning the ſolution of ſalts. The manner in which the ſolution of ſalts in water is effected, is equally unaccountable with moſt of the other operations of nature. Sir Iſaac Newton ſuppoſed that the particles of water got between thoſe of the ſalt, and arranged them all at an equal diſtance from one another: and from this he alſo accounts for the regular figures they aſſume on paſſing into a cryſtalline form; becauſe, having been once arranged in an orderly manner, they could not come together in diſorder, unleſs ſomething was to diſturb the water in which they were ſuſpended; and if any ſuch diſturbance is given, we find the cryſtals are by no means ſo regular as otherwiſe they would have proved. Others have thought that theſe figures depend on a certain *polarity* in the very ſmall particles into which the ſalt is reſolved when in a ſtate of ſolution. Theſe things, however, are merely conjectural; neither is it a matter of any conſequence to a chemiſt whether they are right or wrong.

168 Is deſtructible by repeated ſolutions. Though ſolution is that operation which ſalts undergo the moſt eaſily, and which ſhould ſeem to affect them the leaſt of any, a repetition of it proves nevertheleſs very injurious to them, eſpecially if it is followed by quick evaporation; and the ſalt, inſtead of being cryſtallized, is dried with a pretty ſtrong heat. Newman relates, that a pound of ſea-ſalt was reduced, by 13 ſolutions and exſiccations, to half an ounce; and even that was moſtly earth. Where ſolution is required, therefore, it ought always to be done in cloſe veſſels, in which alſo the ſubſequent evaporation ſhould be performed, (ſee Evaporation); and in all caſes where cryſtallization is practicable, it ought to be preferred to violent exſiccation.

169 Acids. The two great diviſions of ſalts are into acids and alkalies. The former of theſe are known by their peculiar taſte, which is called *acid* or *ſour*. They are not found in a ſolid form; neither are any of them, except the acids of vitriol, of tartar, of phoſphorus, and of borax, capable of being reduced to ſolidity. The others, when highly concentrated, that is, brought to the utmoſt degree of ſtrength of which they are capable, always become an inviſible vapour, permanently elaſtic, until it comes in contact with water, or ſome other ſubſtance with which they are capable of uniting. For ſuch acids the name of *ſalts* ſeems leſs proper, as we can ſcarcely ſay that a *vapour*, which is already much more fluid than water, can be *diſſolved* in that element.

The acids are divided into the mineral, the vegetable, and the animal; expreſſing their different origin, or where they are moſt commonly to be found. The mineral acids are commonly reckoned three; the vi-

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vitriolic, the nitrous, and the marine. To this the acid of borax ought to be added; but its weakneſs makes it much leſs taken notice of as an acid than the others. A Swediſh chemiſt, however, Mr Scheele, hath lately added ſeveral others, which are afterwards taken notice of.

The vegetable kingdom affords only two diſtinct ſpecies of acids, at leaſt without the aſſiſtance of ſome chemical operation. The one appears fluid, and when concentrated to the utmoſt degree becomes an inviſible vapour. This is produced from fermented liquors, under the name of *vinegar*. An acid ſimilar to this, and which is thought not to be eſſentially different from it, is extracted from moſt vegetables by diſtillation with a ſtrong fire. The other is likewiſe a conſequence of fermentation; and cruſts on the bottom and ſides of caſks in which wine is put to depurate itſelf. In its crude ſtate it is called *tartar*; and when afterwards purified, is called the *cream*, or cryſtals, of tartar. As for the various acids produced in the different chemical proceſſes to be afterwards related, we forbear to mention them at preſent, it being juſtly ſuſpected that ſome of them are artificial.

The animal acids, which have hitherto been diſcovered, are only two; the acid of ants, and that of urine, which is alſo the acid of phoſphorus. The firſt of theſe is volatile; and conſequently muſt be ſuppoſed a vapour when in its ſtrongeſt ſtate: the other is exceedingly fixed; and will rather melt into glaſs than riſe in vapours. Beſides theſe, it is ſaid an acid is contained in blood, in waſps, bees, &c.: but no experiments have as yet been made on theſe to determine this matter with any degree of preciſion.

170 Alkalies.

The alkalies are of two kinds; fixed and volatile. The fixed kind are ſubdivided into two; the vegetable, and mineral or foſſil alkali. The vegetable is ſo called, becauſe it is procured from the aſhes of burnt vegetables; the foſſile, becauſe it is found native in ſome places of the earth, and is the baſis of ſea-ſalt, which in ſome places is dug out of mines in vaſt quantity. They are called *fixed*, becauſe they endure a very intenſe degree of heat without being diſſipated in vapour, ſo as even to form a part of the compoſition of glaſs. The volatile alkali is generally obtained by diſtillation from animal ſubſtances. In its pure ſtate this alkali is perfectly inviſible; but affects the ſenſe of ſmelling to ſuch a degree, as not to be approached with ſafety.

171 Different action of alkalies and acids.

The acids and alkalies are generally thought to be entirely oppoſite in their natures to one another. Some, however, imagine them to be extremely ſimilar, and to be as it were parts of one ſubſtance violently taken from each other. Certain it is, that when ſeparated, they appear as oppoſite to one another as heat and cold. Their oppoſite action indeed very much reſembles that of heat and cold, even when applied to the tongue; for the alkali has a hot, bitter, burning taſte, while the acid, if not conſiderably concentrated, always gives a ſenſation of coldneſs. In their action too upon animal ſubſtances, the alkali diſſolves, and reduces the part to a mucilage; while the acid, if not very much concentrated, tends to preſerve it uncorrupted.

172 Neutral ſalts.

If an alkaline ſalt, and moderately ſtrong acid in a liquid ſtate, be mixed together, they will immediately unite; and, provided the alkali has not been deprived of its fixed air, their union will be attended with a very conſiderable effervеſcence: (ſee AEROLOGY.) If the alkali has been deprived of air, no effervеſcence will enſue, but they will quietly mix together; but if a due proportion of each has been added, the liquor will neither have the properties of an acid nor an alkali, but will be what is called *neutral*. The bringing the liquor into this ſtate, is called *ſaturating* the acid or alkali, or combining them to the point of ſaturation.

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If the liquor after ſuch a ſaturation be gently evaporated, a ſaline maſs will be left, which is neither an acid nor an alkali, but a new compound formed by the union of the two, and which is called a *perfect neutral ſalt*. The epithet *perfect* is given it, to make a diſtinction between the ſalts formed by the union of an acid and an alkali, and thoſe formed by the union of acids with earthy or metallic ſubſtances; for theſe will likewiſe unite with acids, and ſome of the compounds will cryſtallize into regular figures; but, becauſe of their weaker union with theſe ſubſtances, the ſalts reſulting from combinations of this kind are called *imperfect*.

173 Vegetable colours changed by acids and alkalies.

All acids, the volatile ſulphureous one excepted, change the blue infuſions of vegetables, ſuch as violets, to a red; and alkalies, as well as ſome of the imperfect neutrals, change them to green. This is the niceſt teſt of an acid or alkali abounding in any ſubſtance, and ſeems the moſt proper method of determining whether a ſolution intended to be neutral really is ſo or not.

174 Differences in the degrees of attraction between acids and alkalies.

Though between every acid and alkali there is a very ſtrong attraction, yet this is far from being the ſame in all; neither is it the ſame between the ſame acid and alkali in different circumſtances of the acid. When the acids are in a liquid ſtate, and as free as poſſible of inflammable matter, between which and the nitrous and vitriolic acids there is a very ſtrong attraction, the vitriolic will expel any of the reſt from an alkaline baſis, and take its place. Thus, if you combine the acid of ſea-ſalt, or marine acid, to the point of ſaturation, with the foſſil alkali, a neutral ſalt will be formed, which has every property of common ſalt: but, if you pour on a certain proportion of the vitriolic acid, the acid of ſea-ſalt will immediately be expelled; and the liquor, upon being evaporated, will contain not the neutral ſalt formed by an union of the marine acid with the alkali, but another conſiſting of the vitriolic acid joined with that alkali, and which has quite different properties from the former.

When the acids and alkalies are applied to one another in a liquid ſtate, the vitriolic acid always ſhows itſelf to be the moſt powerful; but when applied in a ſolid form, and urged with a violent heat, the caſe is very much altered. Thus, the acid of borax, commonly called *ſal ſedativus*, is ſo weak as to be diſengaged from its baſis by every acid applied in a liquid form, that of tartar alone excepted; but if even the vitriolic acid combined with an alkali be mixed with this weak acid, then exſiccated, and at laſt urged with a vehement fire, the vitriolic acid will be diſengaged from its baſis, and riſe in vapours, leaving the weaker acid in poſſeſſion of the alkali. The ſame thing happens on adding the phoſphorine or nitrous acid,

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Salts. acid, or the acid of arſenic, &c. to combinations of the vitriolic or other acids with alkaline ſalts.—When the acids are in a liquid ſtate, therefore the moſt powerful is the vitriolic; next the nitrous; then the marine; then vinegar; acid of ants; and laſtly the ſal ſedativus and tartar, which ſeem to be nearly equal in this reſpect.—If they are applied in a ſolid form, the moſt powerful are the ſal ſedativus and phoſphorine acid; then the vitriolic, nitrous, marine, and vegetable acids.

When they are reduced to vapour, the caſe is exceedingly different; for then the marine acid appears to be the moſt powerful, and the vitriolic the leaſt ſo of any. It is impoſſible, however, to preſerve the vitriolic acid in the form of vapour, without combining it with a certain quantity of inflammable matter, which muſt neceſſarily deſtroy its ſtrength. Dr Prieſtley found, that the marine acid, when reduced to vapour, was capable of diſuniting the nitrous acid from a fixed alkali.

Though the vitriolic acid ſometimes aſſumes a ſolid form, it is by no means eaſy to reduce it to this ſtate by mere concentration, without the aſſiſtance of nitrous acid. Baldaſſart, however, pretends that he diſcovered, in the neighbourhood of a volcano, a pure and icy oil of vitriol, from which nothing could be precipitated by alkaline ſalts; though there is certainly very great reaſon to doubt the accuracy of this obſervation. Of late the nitrous acid has alſo been found capable of aſſuming a ſolid form. This was firſt obſerved by M. Bernhard in diſtilling a very large quantity of the acid. At that time he perceived a white ſalt adhering to the inſide of the receiver, which on examination proved to be the acid of nitre in a concrete form; being extremely corroſive, emitting red vapours copiouſly on being expoſed to the air, and at length totally evaporating in it. Its ſpecific gravity, however, was far inferior to that of the glacial oil of vitriol.

175 Acids unite with phlogiſton. The acids have the property of uniting themſelves to many other ſubſtances beſides fixed alkalies, and forming neutral compounds with them. Of theſe the chief is the principle of inflammability or phlogiſton. In the vitriolic, nitrous, and phoſphorine acids, the attraction for this principle is very ſtrong; ſo great, that the two former will even leave a fixed alkali to unite with it. In the marine acid it is leſs perceptible; in the liquid vegetable or animal acid ſtill leſs; and in the acid of tartar, and ſal ſedativus, not at all.

176 With metals and earth. Beſides this, all acids will diſſolve metallic and earthy ſubſtances: with theſe, however, they do not in general unite ſo firmly with alkaline ſalts; nor do they unite ſo ſtrongly with metals as with earths.

177 Elective attractions. In general, therefore, we may expect, that after having diſſolved a metal in any acid whatever, if we add an earthy ſubſtance to that ſolution, the acid will quit the metal, which it had before diſſolved, to unite with the earth. In this caſe the ſolution will not be clear as before, but will remain muddy, and a quantity of powder will fall to the bottom. This powder is the metalline ſubſtance itſelf, but deprived of one of its component parts; and in this caſe it is ſaid to *precipitate* in the form of a *calx*.

If to this new ſolution of the earthy ſubſtance in an acid liquor, a volatile alkaline ſalt, not deprived of its fixed air, is added, the acid will quit the earth, and unite with the alkaline ſalt. The earth thus diſengaged will again *precipitate*, and lie at the bottom in fine powder, while the volatile alkali and acid remain combined together, and the liquor again becomes clear. Salts.

The attraction between volatile alkalies and acids is conſiderably leſs than between fixed alkalies and the ſame acids. If, therefore, a fixed alkali be now added to the liquor, the volatile alkali will be ſeparated, and the acid will unite with the fixed alkali. The volatile alkali indeed, being perfectly ſoluble in water, cannot precipitate, but will diſcover its ſeparation by the pungent ſmell of the mixture; and upon evaporating the liquor, the volatile alkali will be diſſipated, and a ſaline maſs, conſiſting of the acid and fixed alkali, will remain.

178 Detonation of nitre. Laſtly, If the acid employed was the nitrous, which has a ſtrong attraction for the principle of inflammability, if the ſaline maſs be mixed with a proper quantity of inflammable matter, and expoſed to a ſtrong heat, the acid will leave the alkali with vaſt rapidity, combine with the inflammable matter, and be deſtroyed in flame in a moment, leaving the alkali quite pure.

179 Exceptions to the above rules. Though the above-mentioned effects generally happen, yet we are not to expect that they will invariably prove the ſame whatever acid is made uſe of; or even that they will be the ſame in all poſſible variety of circumſtances in which the ſame acid can be uſed.—The acid of tartar is one exception, where the general rule is in a manner reverſed; for this acid will quit a fixed alkali for an earth, eſpecially if calcined, and even for iron. If lead, mercury, or ſilver, are diſſolved in the nitrous acid, and a ſmall quantity of the marine acid is added, it will ſeparate the ſtronger nitrous acid, and fall to the bottom with the metals in form of a white powder.—The vitriolic acid, by itſelf, has a greater attraction for earthy ſubſtances than for metals; and greater ſtill for fixed alkaline ſalts than for either of theſe: but if quickſilver is diſſolved in the nitrous acid, and this ſolution is poured into a combination of vitriolic acid with fixed alkali, the vitriolic acid will quit the alkali to unite with the quickſilver. Yet quickſilver by itſelf cannot eaſily be united with this acid. The reaſon of all theſe anomalies, however, is fully explained in the following ſection.

§ 1. *Of the Operations of Solution and Precipitation.*

THE chemical ſolution of ſolid bodies in acid or other menſtrua, is a phenomenon which, though our familiarity with it has now taken off our ſurpriſe, muſt undoubtedly have occaſioned the greateſt admiration and aſtoniſhment in thoſe who firſt obſerved it. It would far exceed the limits of this treatiſe to ſpeak particularly of all the various circumſtances attending the ſolution of different ſubſtances in every poſſible menſtruum. The following are the moſt remarkable, collected from Mr Bergman's Diſſertation on Metallic Precipitates.

180 Phenomena attending the ſolution of a metal. 1. On putting a ſmall piece of metal into any acid, it is diſſolved ſometimes with violence, ſometimes gently, according to the nature of the menſtruum and of the metal to be diſſolved.

2. The nitrous acid is the moſt powerful in its ac-

Solution and Precipitation.

tion upon metallic ſubſtances, when unaſſiſted by heat. So great indeed is the violence with which this acid ſometimes acts, that the metal, inſtead of being diſſolved, ſeparates inſtantaneouſly from it in the form of a calx or powder ſcarce ſoluble in any menſtruum, at the ſame time that the heat, effervеſcence, and noxious vapours iſſuing from the mixture, render it abſolutely neceſſary to moderate the action of the menſtruum, either by dilution or cold, or both. In other caſes, however, as when put to gold or platina, the nitrous acid has no effect until it be united with the marine, when the mixture acts upon thoſe metals, which neither of the acids ſingly would touch.

181 Nitrous acid the moſt violent in its operation.

182 Vitriolic acid acts more weakly.

3. The action of the vitriolic acid, though in the higheſt degree of concentration, is more weak. It does not readily attack ſilver or mercury unleſs aſſiſted by a boiling heat, nor will even that be ſufficient to make it act upon gold or platina.

183 Marine acid generally more weak than either, except when dephlogiſticated.

4. The action of marine acid, unleſs on ſome particular ſubſtances, is ſtill more weak; but when dephlogiſticated, or deprived of part of the phlogiſton eſſential to its conſtitution as an acid, it acts much more powerfully, and diſſolves all the metals completely.

184 The reſt of the acids much weaker ſtill.

5. The other acids, as thoſe of fluor, borax, with ſuch as are obtained from the animal and vegetable kingdoms, are much inferior in their powers as ſolvents, unleſs in very few inſtances.

185 Different degrees of ſolubility in metals.

6. Metals vary very much in their degrees of ſolubility; ſome yielding to almoſt every menſtruum, and others, as has been already obſerved, being ſcarce acted upon by the moſt powerful.

186 Solution ſometimes promoted by abſtracting a certain proportion of phlogiſton.

6. Zinc and iron are of the former kind, and gold and ſilver of the latter, eluding the marine; and gold, unleſs in one particular caſe, viz. when aſſiſted by heat in a cloſe veſſel, the action of the nitrous acid alſo. Theſe metals, however, which in their perfect ſtate reſiſt the action of the moſt powerful menſtrua, may be diſſolved much more readily when deprived of a certain quantity of their inflammable principle. But though the ſeparation of this principle in ſome degree renders metals more ſoluble, the abſtraction of too much of it, particularly in the caſe of iron and tin, renders theſe metals almoſt entirely inſoluble.

187 But is totally prevented by taking away too much: exemplified in manganeſe.

Manganeſe is the moſt remarkable inſtance of this power of the phlogiſtic principle, in depriving metals of their ſolubility by its abſence, or reſtoring it to them by its preſence; for this ſubſtance, when reduced to blackneſs, cannot be diſſolved by any acid without the addition of ſome inflammable matter; but when by the addition of phlogiſton it has become white, may be diſſolved in any acid.

188 Solution of metals attended with an effervеſcence.

7. The diſſolution of metals by acids, even to their very laſt particle, is attended by a viſible effervеſcence: this is more perceptible according to the quickneſs of the ſolution; but more obſcure, and ſcarcely to be ſeen at all, when the ſolution proceeds ſlowly.

189 Various kinds of elaſtic fluids extricated.

8. The elaſtic fluids extricated by theſe ſolutions are various, according to the nature of the acid and of the metal employed. With the nitrous, the fluid produced is commonly that called *nitrous air*; with vitriolic and marine acids the produce is ſometimes inflammable air, ſometimes otherwiſe, according to the nature of the metal acted upon.

9. Heat in a greater or ſmaller degree is always produced during the diſſolution of metals; and the degree of it is in proportion to the quantity of the matter and the quickneſs of the ſolution; and hence, in ſmall quantities of metal, and when the ſolution proceeds very ſlowly, the temperature of the maſs is ſcarcely altered

Solution and Precipitation.

190 Heat produced during the diſſolution of metals.

10. The calces of metals either yield no air at all, or only the aerial acid, unleſs when urged by a violent heat almoſt to ignition; when, by means of vitriolic or nitrous acid, they yield a quantity of pure air, after other elaſtic fluids, ſuch as vitriolic, nitrous, or phlogiſticated air. None of the dephlogiſticated air is uſually produced by the marine acid in conjunction with metallic calces.

191 Little air can be obtained from metals when calcined.

11. The ſolutions of ſome metals are coloured, others are not. The colour of the former is only that which is proper to the calx, but rendered more vivid by the moiſture. Thus ſolutions of gold and platina are yellow; thoſe of copper, blue or green; ſolutions of nickel of a bright green; but thoſe of cobalt are red, although the calx is black. We may obſerve that even this red colour may be heightened to blackneſs. Iron moderately calcined is green; but this rarely continues upon further dephlogiſtication. The white calces of ſilver, lead, tin, biſmuth, arſenic, antimony, and manganeſe, are diſſolved without colour; but ſolutions of lead, tin, and antimony, are ſomewhat yellow, unleſs ſufficiently diluted. Mercury, however, forms a ſingular exception to this rule; for the orange-coloured calx of this metal forms a colourleſs ſolution. The metals yielding coloured ſolutions are gold, platina, copper, iron, tin, nickel, and cobalt; the reſt, if properly depurated, give no tinge. A ſolution of ſilver is ſometimes of a blue or green colour at firſt, although there be no copper preſent; the vitriolic acid becomes blue with copper; the nitrous may be made either blue or green at pleaſure; the marine varies according to the quantity of water with which it is diluted. Manganeſe, when too much dephlogiſticated, renders both the vitriolic and marine acids purple.

192 Various colours of metalic calces.

193 Bergman's account of the cauſe of chemical ſolution.

With regard to the cauſe of chemical ſolutions, our author obſerves, that though attraction muſt be looked upon as the fundamental cauſe, yet we may alſo lay it down as a maxim, that no metal can be taken up by an acid, and at the ſame time preſerve the whole quantity of phlogiſton which was neceſſary to it in its metallic ſtate. A certain proportion of the principle of inflammability therefore may be conſidered as an obſtacle which muſt be removed before a ſolution can take place. Thus, of all the acids, the nitrous attracts phlogiſton the moſt powerfully, and ſeparates it even from the vitriolic. A proof of this may be had by boiling ſulphur ſlowly in concentrated nitrous acid. At length all its phlogiſton may be ſeparated, and the vitriolic acid will remain, deprived of its principle of inflammability. The extraordinary ſolvent powers of this acid, therefore, is conformed to the peculiarity of its nature in this reſpect. For this menſtruum diſſolves metals for ſolution with the greateſt eaſe, moſt commonly without any aſſiſtance from external heat; which in ſome inſtances would be hurtful, by ſeparating too much of phlogiſton, as appears in the caſe of iron, tin, and antimony; all of which may be ſo far dephlogiſticated by the nitrous acid, as to be rendered extremely difficult of ſolution: for this reaſon it is very often neceſſary, as has already been obſerved, to temper the activity

194 Solution impeded by too great a quantity of phlogiſton.

195 Sulphur dephlogiſticated by nitrous acid.

196 Calces of ſome metals prepared by nitrous acid almoſt inſoluble ever afterwards.

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